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SITE INSPECTION REPORT

CHEMONICS LABORATORY DIVISION MCKENZIE

734 E. Southern Pacific Drive
Phoenix, Arizona 85034
Maricopa County

EPA ID#: AZD057907883
STATE ID#: 0376

PREPARED BY:
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ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF WASTE PROGRAMS
REMEDIAL PROJECTS SECTION
PREREMEDIAL UNIT

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1.0 INTRODUCTION

The U. S. Environmental Protection Agency (EPA), Region 9, under the authority of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA or Superfund) and the Superfund Amendments and Reauthorization Act of 1986 (SARA) has tasked the Arizona Department of Environmental Quality (ADEQ) to conduct a Site Inspection (SI) at the Chemonics Laboratory Division McKenzie (Chemonics) located at 734 E. Southern Pacific Drive in Phoenix, Maricopa County, Arizona.

Chemonics was identified as a potential hazardous waste site and entered into the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) in June 1987 and assigned the CERCLIS ID# AZD057907883. A Preliminary Assessment (PA) of Chemonics was completed in August 1990 by Ecology and Environment (E & E) under contract for EPA.(1) The purpose of the PA was to review existing information on Chemonics to assess the threat, if any, posed to public health, welfare or the environment and to determine if further investigation under CERCLA/SARA was warranted. The PA concluded that further remedial action under CERCLA was needed.(1) EPA agreed that further investigation of Chemonics would be necessary to more completely evaluate the site using EPA's Hazard Ranking System (HRS) criteria. The HRS is the primary method of determining a site's eligibility for placement on EPA's National Priorities List (NPL). The NPL identifies sites at which EPA may conduct remedial response actions. This SI Report is the result of ADEQ's recent investigation.

1.1 Apparent Problem

Volatile organic compounds (VOCs) were first detected in groundwater in the East Washington Water Quality Assurance Revolving Fund (WQARF) Project Area in July 1983. Analysis of groundwater samples collected from Eastlake Park which is located approximately 1 mile east of the site detected VOCs.(2,3)
To determine the possible sources of the groundwater contamination, ADEQ sent out a questionnaire to facilities in the East Washington Area requesting information on the usage and handling of hazardous materials. (3) Based on the responses from the questionnaire, several of the facilities located at 724 and 734 E. Southern Pacific Drive were listed as possible sources of groundwater contamination because many of the companies at the site once used solvents. Chemonics also indicated that they had three drywells on their property and numerous above ground storage tanks.(1,2,3)

After being listed as a "Priority Facility" by ADEQ in the Draft Phase I Report for Eastlake

Park, October 1988, Capitol Engineering (Capitol) located at 724 E. Southern Pacific Drive, contracted a consultant to perform an Environmental Assessment of its property. No chlorinated solvents were detected at Capitol; Capitol did detect DCA in a drain located at their 7th Street property located north of the 724 parcel. Chlorinated pesticides were detected in the rail spur area. (4) Since Capitol never had pesticides associated with its operation; it was suspected to have migrated from the 734 address where Chemonics and other companies have been located for years. (1,4) The actual suspect company is Arizona Fertilizers which formulated pesticides at the 734 property from 1946 until 1953.(1)

The main VOCs identified in the groundwater are chlorinated solvents commonly used in industry. TCE is typically used for the degreasing of metal parts. PCE is often used for dry-cleaning and degreasing operations. DCE is composed of three isomers: 1,1-DCE, cis-1,2-DCE and trans-1,2-DCE. Cis-1,2-DCE and trans-1,2-DCE are not widely used in industry but are degradation products of TCE and PCE. 1,1-DCE is also a degradation product of TCE and PCE, and is used in the manufacturing of 1,1,1-trichloroethane (1,1,1-TCA). 1,1,1-TCA is an industrial cleaner and degreaser and has been shown to degrade to 1,1-DCE under laboratory conditions. Benzene, vinyl chloride and chloroform have also been detected in East Washington.(3,42,43)

2.0 SITE DESCRIPTION

2.1 Location

The Chemonics facility is located at 734 E. Southern Pacific Drive, Phoenix, Arizona 85034. The geographic coordinates are 33° 27' 15" N latitude and 112° 04' 45" W longitude [Township 1 North, Range 3 East, Section 09, (A-01-03)09cbb)] (See Figure 1). (16) The site consists of both 734 E. Southern Pacific Drive and 724 E. Southern Pacific Drive. Chemonics is located at the 734 parcel and Capitol is located at the 724 parcel. The site is bordered on the north by a vacant lot owned by Smith Pipe and Steel and the Southern Pacific Railyard, the east by the railyard, the south by a railyard unloading parking lot, and the west by Capitol Engineering. The surrounding land use is mixed and includes industrial and commercial.(15,22) The nearest residential area is located approximately 0.25 miles south of the site.(15)

2.2 Site Description

The site (724 parcel and the 734 parcel) is on approximately 6 acres of flat mostly paved land. (12,15) For the purposes of this report unlike the PA, the majority of the report will focus on the 734 parcel due to the lengthy operational history associated with the parcel.

The site consists of several buildings that house various operations of Chemonics Industries. (See Figure 2) There are also other companies that lease from Chemonics at the 734 parcel. Capitol is the only company located at the 724 parcel. There are no Underground Storage Tanks (USTs) located on the property.(11) The site is fenced except for the north side of the site where the rail

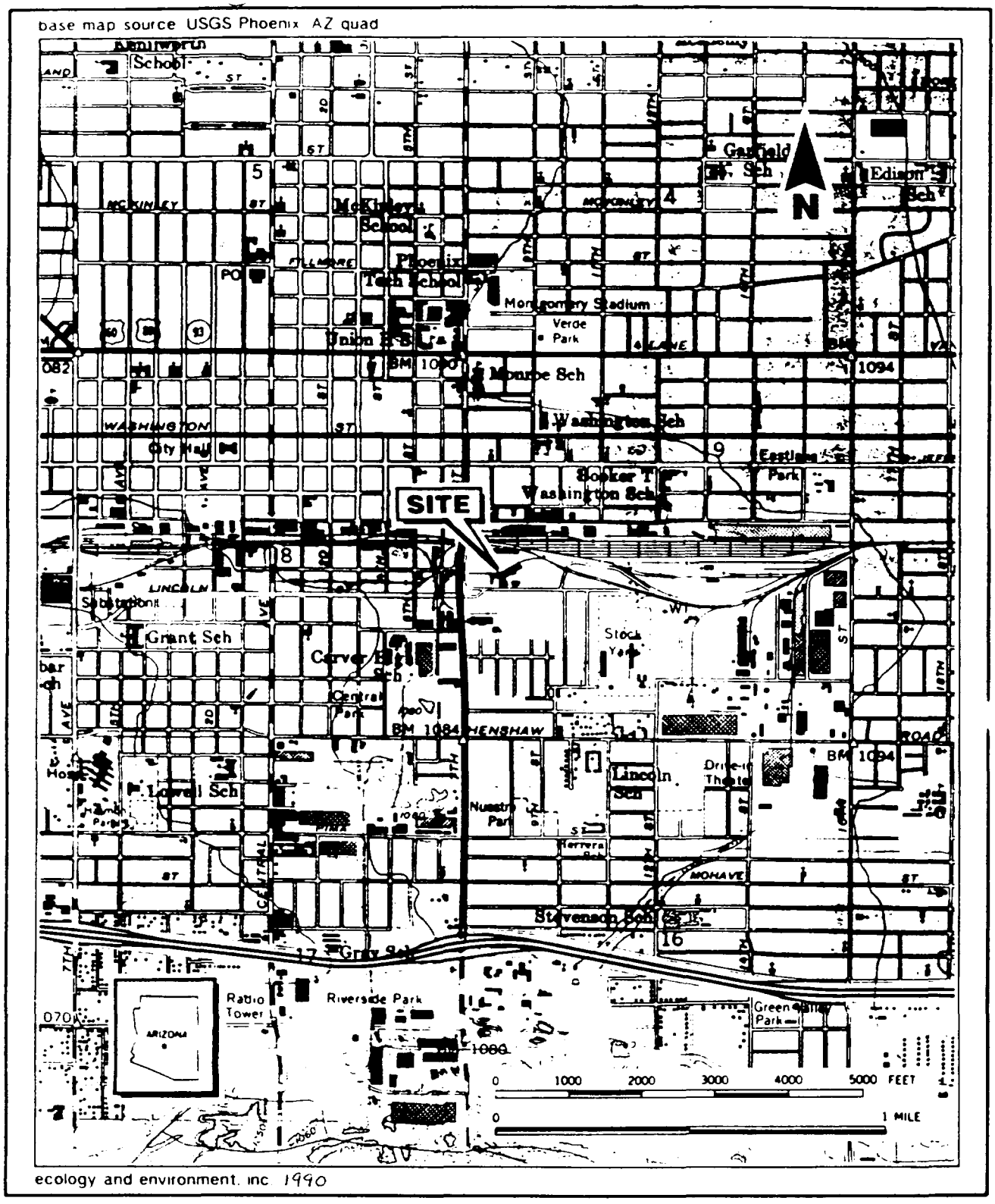


Figure 1

SITE LOCATION MAP

CHEMONICS LAB DIVISION McKENZIE

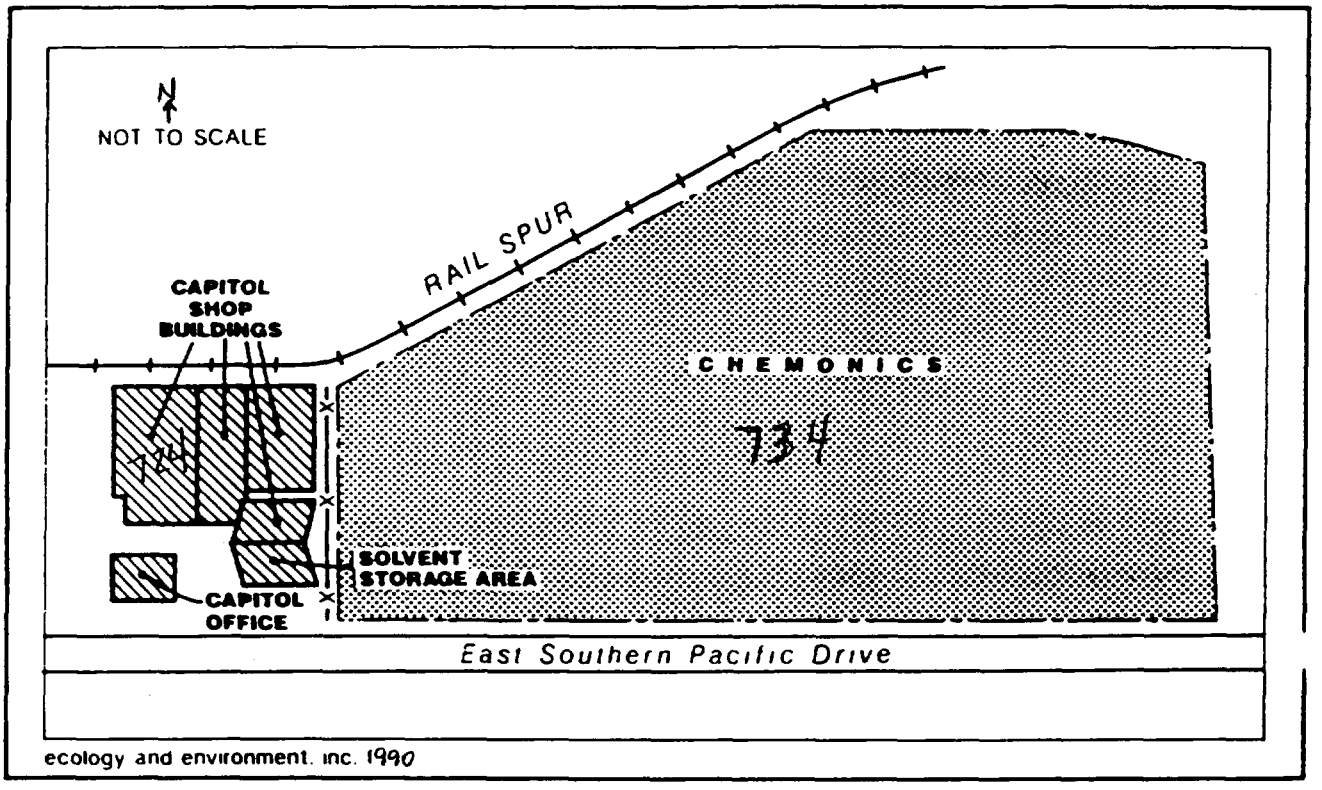


Figure 2

Facility Map of the 724 and 734 Properties

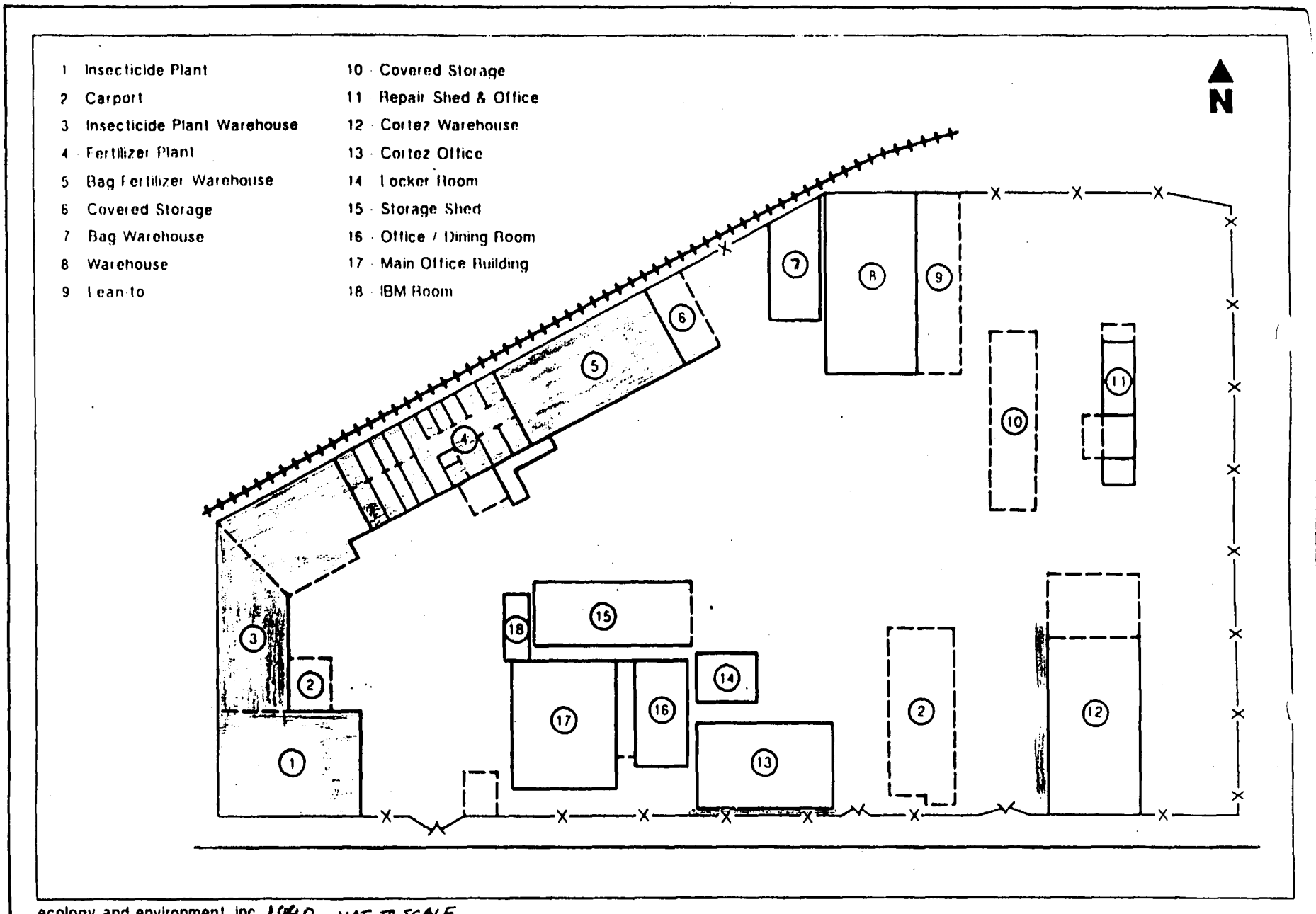


Figure 3

FACILITY MAP OF ARIZONA AGROCHEMICAL CORPORATION.
JANUARY 1966

spur is located. (12)

Chemonics leases the 734 parcel from the Southern Pacific Transportation Company (Pacific); Pacific has owned this parcel since the early 1920's. Pacific sold the 724 parcel to Capitol during the 1950's. (1)

Chemonics subleases part of the 734 parcel to other companies including Available Metals. Alameda Chemical and Supply Company, which once was a susidiary of Chemonics, is located at the site but does have a different address. Several other businesses were located at the 734 parcel until they either relocated like McKenzie did in 1989, or the companies went out of business. (1,12)

2.3 Operational History

In November 1992, ADEQ conducted a drive-by inspection of the facility. During the drive-by, above ground storage tanks were visible; the tanks hold the chemicals used to make the fire retardant product. (15) During the June 1993 Site Reconnaissance Visit, these areas seemed unchanged.(12)

Chemonics manufactures fire retardants that contain ammonium sulfate and sodium ferrocyanite. Reportedly Chemonics uses no solvents in this process. (1,12)

Chemonics incorporated under the laws of the State of Arizona on March 31, 1972. (26) According to the Cole's City Directory, Chemonics has been in operation at its current location since 1971. (17,18)

The property where Chemonics conducts operations has been owned by Pacific since the early 1920's. (1,12)

Capitol has been the only operator at the 724 parcel since the 1950's, after Pacific used the site. (1,4)

The 734 parcel first was developed in the 1920's as a railyard for Pacific. Pacific utilized the property until the 1940's. (1)

The first listing of commercial operations at the 734 parcel was in the late 1940's. Mostly fertilizer and pesticide formulations took place here until the 1960's. (1,17)

In the 1960's into the early 1970's, several small pool chemical companies were located at this site. (1,17)

In the late 1960's, Erly Industries purchased Arizona Agrochem which was the old formulator company. Erly sold it to Valley Nitrogen in the early 1970's. Chemonics Laboratories, Chemonics Industries and Chemonics Scientific were all subdivisions of Erly Industries until the

1980's. (1,12)

During the 1970's a company that made garbage trucks, Government Innovators EPA #AZD981673544, was located at the site. (1,17)

During the 1980's, Chemonics Scientific and Chemonics Laboratories were sold and became Alameda Chemical and McKenzie Laboratories, respectively. (1,12)

Available Metals Refining Corporation has been located at the 734 parcel since approximately 1978 and is currently a tenant of the site. (1,12)

Chemonics makes fire retardant products under contract with the U.S. Government. There are approximately 30 people currently employed by Chemonics at this facility.(12)

2.4 Other Regulatory Involvement

The Chemonics facility at the 734 parcel is not regulated by RCRA.(19) The laboratory division which is now McKenzie has an EPA Generator Number (AZD981415086) but there is no compliance log or record with RCRA. Available Metals also has a RCRA Generator Number (AZT050010362). (1)

There is no record of the ADEQ Emergency Response Team ever responding to a chemical event at Chemonics according to the logbooks from 1984-1992. (10)

There are three registered drywells at the site according to the ADEQ Drywell Registry. The site visit showed that there are three drywells on the property. (12,13)

There is no record of Chemonics on the ADEQ UST Database. Chemonics is not listed in the Leaking UST Database. (11) The site visit concurrs with this information. (12)

Chemonics does not have an Aquifer Protection Permit (APP) but they have filed for one to close out the drywells on the property. There is no listing for a Notice of Disposal (NOD) nor a National Pollutant Discharge and Elimination System Permit (NPDES) with ADEQ. (14)

According to The City of Phoenix (COP), under the Industrial Wastewater Discharge Program, there is no file for Chemonics regarding pretreatment requirements to the sewer system. (1)

Chemonics (McKenzie Labs) did obtain an Air Permit with the Maricopa County Air Pollution Control. No compliance problems were cited. McKenzie is no longer at this site so there is no permit for Chemonics any longer. Available Metals does have an Air Permit for their incinerator operations.(20)

According to records with the COP Fire Department, there was a fire at the laboratory but there was no environmental problems created by the incident. (21)

The Arizona Industrial Commission has no file on Chemonics regarding CERCLA listed compounds. (30)

As mentioned before, the Chemonics facility is located within the boundaries of the East Washington WQARF Project Area.

3.0 INVESTIGATIVE EFFORTS

The investigative efforts for this facility involved a Site Reconnaissance Visit.

The Site Reconnaissance Visit of Chemonics was conducted by ADEQ on June 9, 1993. ADEQ was represented by Ms. Deborah F. Malone and Ms. Shelley J. Miller. Mr. Lloyd Aderhold, Environmental Director for Chemonics was the company representative. Following an informational meeting, a tour of the facility was conducted by Mr. Aderhold. The other companies located at the 734 site and Capitol were not included in the site visit.(12)

3.1 PREVIOUS SAMPLING AND ANALYSES

3.1.1 Purpose and Description of Sampling Event

Soil sampling for pesticides has been conducted at the site by Capitol, Chemonics and Pacific Transportation. Sampling was initially started by Capitol for an EA. Chemonics and Pacific began sampling when the results of the sampling conducted by Capitol was finished. Pacific conducted deep trench sampling and the other sampling was surficial in nature. (1,2,4,33)

The soil sampling conducted at the site was done with WQARF oversight by ADEQ. (4)

3.1.2 Discussion of Sample Results

3.1.2.1 *Soil-Gas Sampling*

There is no Soil-Gas data to interpret from this site.

3.1.2.2 *Soil Sampling*

There is no soil data to interpret the possibility of VOC contamination being present at this site.

As previously mentioned, there has been soil sampling conducted at the Chemonics property, the Capitol property by private consultants for pesticide residuals along the rail spur adjacent to the 734 and 724 parcels. Pacific also conducted soil sampling along the rail spur towards the east to the railyard area since the railroad owns the property. (1,2,4,33)

The soil data provided to ADEQ did not include Contract Laboratory Procedures, therefore, Quality Assurance and Quality Control (QA/QC) checks by ADEQ are not equal to the sampling results that generally are received when ADEQ does sampling per EPA authorization. "Raw" data is all that was supplied to ADEQ. The laboratory that performed the analytical work did provide the internal QA/QC documentation; the laboratory is an Arizona State Certified Laboratory. (2,4)

Chlorinated pesticides such as toxaphene, dieldrin, lindane (gamma BHC) and DDT were detected at shallow depths (0.5 to 2.5 feet bgs) at the 724 parcel. Some of the analytes were detected above Health-Based Guidance Levels (HBGL's) which constitute a set of health-based levels applicable to the ingestion of soil by humans that ADEQ has provided for reference guidance. (34) Chlorinated pesticides were detected in shallow depths at the 734 parcel along the area of the rail spur. The rail spur was used for bulk transportation of the fertilizers and the pesticides when formulation processes were occurring at this site in the 1940's through the 1960's. (1,2,4)

The soil data collected by Pacific shows pesticides like DDT, DDE, DDD and chlordane and toxaphene were detected in the samples. Aldrin, dieldrin and beta-BHC was also detected at trace levels. (33) This data is not presented in the results section since it conforms with both Capitol's and Chemonics results.

Chemonics is reportedly undergoing remediation options to handle the chlorinated pesticide contamination in the rail spur area. (12)

The State Superfund program (WQARF) is also aware of the contaminated soil located at the site. ADEQ is approving and overseeing Chemonics' remediation activities as they are being conducted.

The extent of the pesticide contamination has not been assessed; it is speculated that the contamination may have migrated north of the rail spur into the storage lot north of the fenceline; however, there is no conclusive evidence like analytical data to support this.

Table 2 is a summary of the soil sampling results at the rail spur.

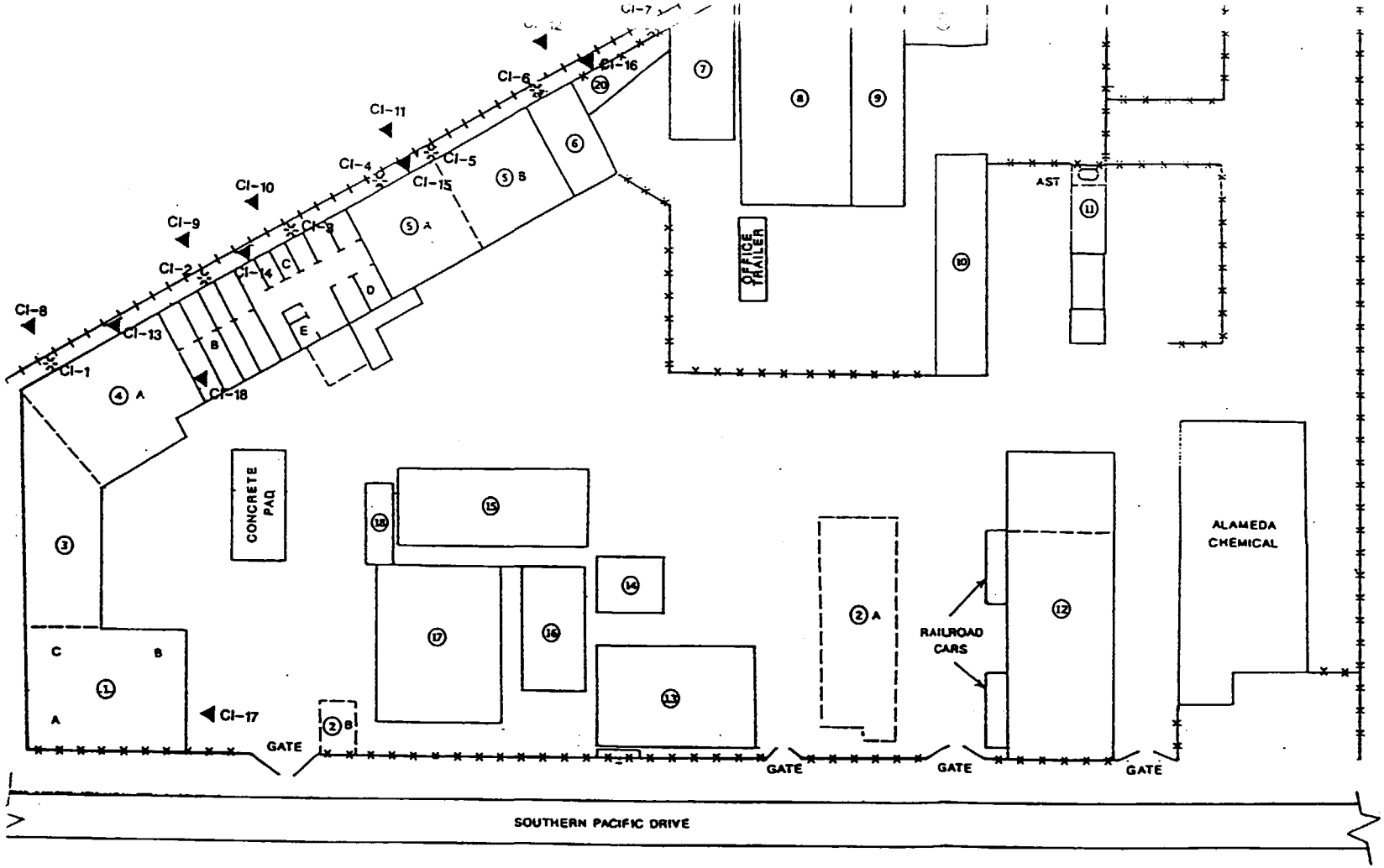
3.2 ADEQ/EPA SAMPLING

Sampling by ADEQ was not conducted at this site because sufficient analytical data exists to assess this site under CERCLA at this stage for evaluation.

4.0 HRS FACTORS

4.1 Sources of Contamination

The sources of contamination at this site include:



LEGEND

DESCRIPTION

(1) Firetrol storage
(2) Carport
(3) Firetrol Storage
(4) Firetrol Storage
(5) Vacant
(6) Available Metals
(7) Available Metals
(8) Available Metals
(9) Available Metals
(10) Canyon Industries
(11) Canyon Industries
(12) Vacant
(13) Vacant/McKenzie Labs.
(14) Vacant/McKenzie Labs.
(15) Firetrol Shop
(16) Firetrol Laboratory
(17) Chemonics Office
(18) Firetrol Office
(19) Available Metals
(20) Available Metals

✲ Preliminary Sample Locatio
◀ Proposed Sample Locations

NORTH

0 50 100
SCALE IN FEET

Table 1: Soil Sampling Locations

TABLE 2-1

Summary of Analytical Results
Organochlorine Pesticides and PCBs
(EPA Method 8080)
mg/kg

Sample No.	Alpha BHC	Beta BHC	Gamma BHC	Delta BHC	DDT/ DDE/ DDD	Dieldrin	Toxaphene	Chlordane
CI-1-4	9.8	2.9	11.3	8.8	65	<2.0	70	<10.0
CI-8-1	<0.100	<0.100	<0.100	<0.100	2	<0.2	4	<1.0
CI-8-2	<0.100	0.2	<0.100	<0.100	5.4	<0.2	8	<1.0
CI-8-3	<0.050	0.12	<0.050	<0.050	0.4	<0.1	<1.0	<0.5
CI-9-1	<0.050	0.05	<0.050	<0.050	0.9	<0.1	3	<0.5
CI-9-2	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.1	<0.05
CI-9-3	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.1	<0.05
CI-9-4	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.1	<0.05
CI-10-1	<0.100	0.2	0.2	<0.100	9	0.3	12	<1.0
CI-10-2	<0.025	<0.025	<0.025	<0.025	0.03	<0.05	0.1	<0.25
CI-10-3	<0.005	<0.005	<0.005	<0.005	0.02	<0.01	<0.1	<0.05
CI-11-1	<0.100	0.6	<0.100	<0.100	9.2	<0.2	11	<1.0
CI-11-2	<0.005	0.005	<0.005	<0.005	0.14	<0.01	0.3	<0.05
CI-11-3	<0.005	0.005	<0.005	<0.005	0.08	<0.01	0.2	<0.05
CI-11-4	<0.005	0.01	<0.005	<0.005	0.21	0.02	0.4	<0.05
CI-12-1	<0.250	2.0	<0.250	<0.250	24.2	1.00	12	<2.5
CI-12-2	<0.025	0.20	<0.025	<0.025	1.76	0.06	0.8	<0.25
CI-12-3	<0.005	0.01	<0.005	<0.005	0.16	<0.01	<0.1	<0.05
CI-13-1	<1.25	<1.25	<1.25	<1.25	2.8	<2.5	<25	<12.5
CI-13-2	<0.025	<0.025	<0.025	<0.025	0.14	<0.05	<0.5	<0.25
CI-13-3	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.1	<0.05
CI-14-1	<0.050	0.10	<0.050	<0.050	1.4	0.3	4.0	<0.5
CI-14-2	<0.050	0.05	<0.050	<0.050	0.9	0.1	3	<0.5
CI-14-3	<0.005	<0.005	<0.005	<0.005	0.02	<0.01	<0.1	<0.05
CI-15-1	<5.0	<5.0	<5.0	<5.0	190	60	200	<50
CI-15-2	<0.025	<0.025	<0.025	<0.025	1	0.24	1.2	<0.25
CI-15-3	<0.005	<0.005	<0.005	<0.005	0.05	0.01	<0.1	<0.05
CI-16-1	<0.50	0.5	<0.50	<0.50	10	1	16	<5.0
CI-16-2	<0.250	0.50	<0.250	<0.250	4.9	0.6	16	<2.5
CI-16-3	<0.025	0.025	<0.025	<0.025	0.28	0.05	1.1	<0.25
CI-16-4	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.1	<0.05
CI-17-1	<10.0	<10.0	<10.0	<10.0	170	<20	280	<100
CI-18-1	<0.100	<0.100	<0.100	<0.100	0.6	<0.2	<2.0	<1.0
HBGLs	NE	NE	NE	NE	2.0	0.02	0.60	0.40

CI-18-1 Total Nitrite/Nitrate-N 140 MG/L (EPA Method 353)

Note: mg/l = milligrams per liter
mg/kg = milligrams per kilogram
<0.01 = Not Detected at the Specified Laboratory Detection Limit
HBGLs = 1990 Ingestion Health-Based Guidance Levels for soil
NE = Not Established

TABLE 2 - 1 A

Summary of Analytical Results
Organochlorine Pesticides and PCBs
(EPA Method 8080)
mg/kg

Sample No.	Alpha BHC	Beta BHC	Gamma BHC	Delta BHC	DDT/ DDE/ DDD	Dieldrin	Toxaphene	Chlordane
CI-17-1	<10.0	<10.0	<10.0	<10.0	170	<20	280	<100
CI-17-2	<25	<25.0	<25.0	<25.0	750	<50	2300	<250
CI-17-3	<0.005	0.033	<0.005	<0.005	0.22	0.04	1.20	*0.07
CI-17A-1	<0.050	0.56	<0.050	<0.050	0.4	<0.1	<1.0	<0.5
CI-17A-2	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.1	<0.05
CI-17A-3	<0.005	<0.005	<0.005	<0.005	0.01	<0.01	<0.1	<0.05
CI-17B-1	0.35	0.36	<0.250	<0.250	16.7	<0.5	<5.0	*19.5
CI-17C-1	<0.100	0.2	<0.100	<0.100	<0.2	<0.2	<2.0	*2.0
CI-17C-2	<0.005	0.011	<0.005	<0.005	0.01	<0.01	<0.1	<0.05
CI-17C-3	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.1	<0.05
HBGLs	NE	NE	NE	NE	2.0	0.02	0.60	0.40

Note:

mg/kg = milligrams per kilogram
<0.01 = Not Detected at the Specified Laboratory Detection Limit
HBGLs = 1990 Ingestion Health-Based Guidance Levels for soil
NE = Not Established
* = Technical Grade Chlordane

Table 2-1. Summary of Compounds Detected by Analysis for Organochlorine Pesticides and PCBs (EPA Method 8080)

Sample No.	Depth Interval (feet)	Analytical Results (mg/kg)(a)							
		Alpha BHC	Beta BHC	Gamma BHC	Delta BHC	DDT/DDE/DDD	Dieldrin	Toxaphene	Chlordane
CI-1-1	0 - 0.5	78	16	43	40	1291	<20(b)	<200	<100
CI-1-2	1 - 1.5	5.4	0.47	13	3.2	3.7	<1.0	<10	<5.0
CI-1-3	2 - 2.5	0.12	<0.05	0.28	0.22	<0.1	<0.1	<1.0	<0.5
CI-2-1	0 - 0.5	<1.0	1.1	<1.0	<1.0	28	<2.0	<20	<10
CI-2-2	1 - 1.5	0.0064	0.027	<0.005	<0.005	0.016	<0.01	<0.1	<0.05
CI-2-3	2 - 2.5	<0.005	0.0065	<0.005	<0.005	<0.01	<0.01	<0.1	<0.05
CI-3-1	0 - 0.5	<0.025	0.041	<0.025	<0.025	0.44	<0.05	0.99	<0.25
CI-3-2	1 - 1.5	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.1	<0.05
CI-3-3	2 - 2.5	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.1	<0.05
CI-4	0 - 0.5	<2.5	<2.5	<2.5	<2.5	82	7	130	<25
CI-5	0 - 0.5	<0.5	<0.5	<0.5	<0.5	10.3	<1.0	10	<5.0
CI-6	0 - 0.5	<0.5	<0.5	<0.5	<0.5	15.9	<1.0	13	<5.0
CI-7	0 - 0.5	<1.0	<1.0	<1.0	<1.0	40.3	<2.0	<20	<10
I-HBGL(c)		NE(d)	NE	NE	NE	2	0.02	0.6	0.4

Note: (a) mg/kg = milligrams per killigram

(b) <0.01 = Not Detected at the Specified Laboratory Detection Limit

(c) I-HBGL = Arizona Department of Environmental Quality (ADEQ) proposed 1990 Ingestion Health-Based Guidance Levels for Soil

(d) NE = Not Established

- The dirt rail spur area
- The old formulation building
- The solvent evaporation pan area
- The drum storage area at Available Metals
- The concrete wash/painting area for Government Innovators
- The three registered drywells on the property
- Unallotted source due to unknown site history

The rail spur area has analytical data to support that it is contaminated with chlorinated pesticides at shallow depths. Soil sampling has been completed in the area several times. The exact vertical and horizontal extent of the contamination has not been determined. The rail area was used for transporting the bulk pesticides and fertilizers. (4,33)

Arizona Fertilizer's Inc. and then Arizona Agrochem formulated both fertilizers and pesticides at the site from the 1940's until the 1950's. The exact volumes of fertilizers and pesticides formulated is not known. Soil samples collected at the location of the formulation area showed chlorinated pesticides. The exact volumes stored and how it was contained is undocumented.(1)

While McKenzie was located at this address it was an agricultural laboratory and solvents were used. The solvents were stored inside of the building. Solvents that were used included acetone, ethers and methylene chloride. The solvents were disposed of to an evaporation dish that was located outside of the building under a covered roof overhang. The dish was contained in a secondary catch basin in case of overflow or rupture to the dish. This dish was approximately 12 feet long, 2 feet wide, and 1 foot deep. The pan was used until 1987. The solvent residue was picked up by Chemical Waste Management, Inc. McKenzie stopped using the evaporation dish altogether in 1987. The waste solvents were then collected into 55 gallon drums and CTI Inc. removed them from the site. Rinchem took over the removal contract from CTI and continued to remove the drums until 1989 when McKenzie relocated.(1,12) It is presumed that Rinchem still has the contract with McKenzie.

Available Metals reclaims precious metals from scrap electronic parts. Cyanide is used in the process. The spent cyanide solution is incinerated and the ash is sold to smelters. Cyanide drums are stored on the site which constitute a source of hazardous wastes. The drum disposal practices are unknown.(1)

While Government Innovators was located at the site (1970's til 1989) garbage trucks were manufactured. The trucks were painted so there were both waste paints and solvents. Reportedly the waste solvents were collected and run through a distillation unit to recover additional solvent for use. Southwest Industrial Recyclers reportedly ran the still operation. The remaining still-bottoms were mixed with a rubberizing agent and applied to the garbage trucks as an undercoating. This operation was done over a concrete pad. Parts cleaning solvents were also used in the operations. Safety-Kleen reportedly was the waste hauler for these solvents. Sampling was conducted at the concrete pad and nothing was detected in the samples. No sampling was conducted here for pesticides. (1)

There are three drywells on the property. The drywells are approximately 25 feet deep. Two of the three drywells flow into the third one. The drywells are registered and were installed for storm water drainage at the site. The drywells are being closed out under the APP Program of ADEQ. The drywells don't directly impact groundwater due to the shallowness of the drywells. (1,12)

During the 1960's into the early 1970's there were several pool chemical companies located a the site. Constituents of the chemicals mixed at the site is simply speculative. The storage and waste disposal if applicable is unkown.(1)

Historic chemical storage and disposal practices for occupants of the 734 parcel besides Chemonics is not well documented.

4.2 Groundwater Pathway

4.2.1 Hydrogeologic Setting

The Chemonics facility is located in the West Salt River Valley sub-basin of the Phoenix Active Management Area. Valley-fill deposits lie beneath the West Salt River Basin. These deposits are the main sources of groundwater.(22)

Based on lithology, the valley-fill deposits can be divided into three water bearing strata. The top strata is the Upper Alluvial Unit (UAU). Beneath the UAU is the Middle Fine-Grained Unit (MFGU). The bottom strata is the Lower Conglomerate Unit (LCU).(22) Because of complex facies relationships and mixed lithology within the units, they are hydrologically interconnected to some degree.(23) These units are considered to be the aquifer of concern.

The primary source of groundwater in the valley-fill deposits is the UAU, which consists of deposits of unconsolidated to weakly consolidated gravel, sand, silt, and clay. The UAU extends across most of the West Salt River Valley and ranges in thickness from approximately 200 feet near the eastern WQARF Project Area boundary to 450 feet near the western Project Area boundary.(22) The aquifer is generally unconfined. This unit is approximately 200 feet thick beneath the Chemonics facility. Regional hydraulic conductivity values range from 180 to 1700 feet/day and wells completed in the unit pump from 1500 to 5500 gallons/minute.(23)

The MFGU is composed of middle to late Tertiary deposits consisting of interbedded sand, clay, and evaporite. The unit contains more than 40% sand and gravel throughout most of the basin but permeability may be affected by calcite cement. Fine grained horizons of less than 20% sand parts are localized, and the locations appear to be highly influenced by the large influx of sediment from the major drainages. However, the average percent sand and gravel may not always be a complete indicator of the hydraulic character of this unit because of interbedded coarse and fine material. Hydraulic conductivities are lower than those for the permeable upper unit and values range from 4 to 60 feet/day. This unit is approximately 200 feet thick in the area

beneath the Chemonics facility and wells completed in the unit pump from 350 to 2200 gallons/minute.(23)

The LCU has been differentiated into the upper LCU and the lower LCU based on differences in consolidation, homogeneity, types of evaporite deposits and structure. The depositional environments of the both parts of the unit include: playa, alluvial fan, fluvial, and evaporite. The upper part of the LCU is composed of sand, clay, mudstone, siltstone, gypsiferous mudstone, gypsum, and gravel. Hydraulic conductivity values are from 3 to 24 feet/day in sediments ranging from about 10 to 75% sand and gravel. Within this portion of the unit, groundwater may occur in unconfined or leaky confined conditions near the Chemonics facility. The lower part of the LCU consists of mudstone, siltstone, gypsiferous and anhydritic mudstone and siltstone, sand, gravel, conglomerate, halite, anhydrite, and interbedded basalt. Observed hydraulic conductivity values for the lower part of the unit were from 6 to 9 feet/day in sediments ranging from 50 to 90% sand and gravel. These deposits are more consolidated and more homogeneous in terms of clast type than the upper part of the unit. Groundwater is present under leaky, confined conditions.(23)

Regional groundwater flow is to the west-southwest; however, the direction is influenced by groundwater pumpage.(3)

As mentioned before, Chemonics is located within the East Washington WQARF Project Area, an area of documented groundwater contamination by VOCs.(3) The lateral and vertical extent of the contamination is unknown at this time.(3)

The climate in the metropolitan Phoenix area is arid. Precipitation is heaviest in winter. The calculated net precipitation for the months of November through April is -16.8 inches.(5,26)

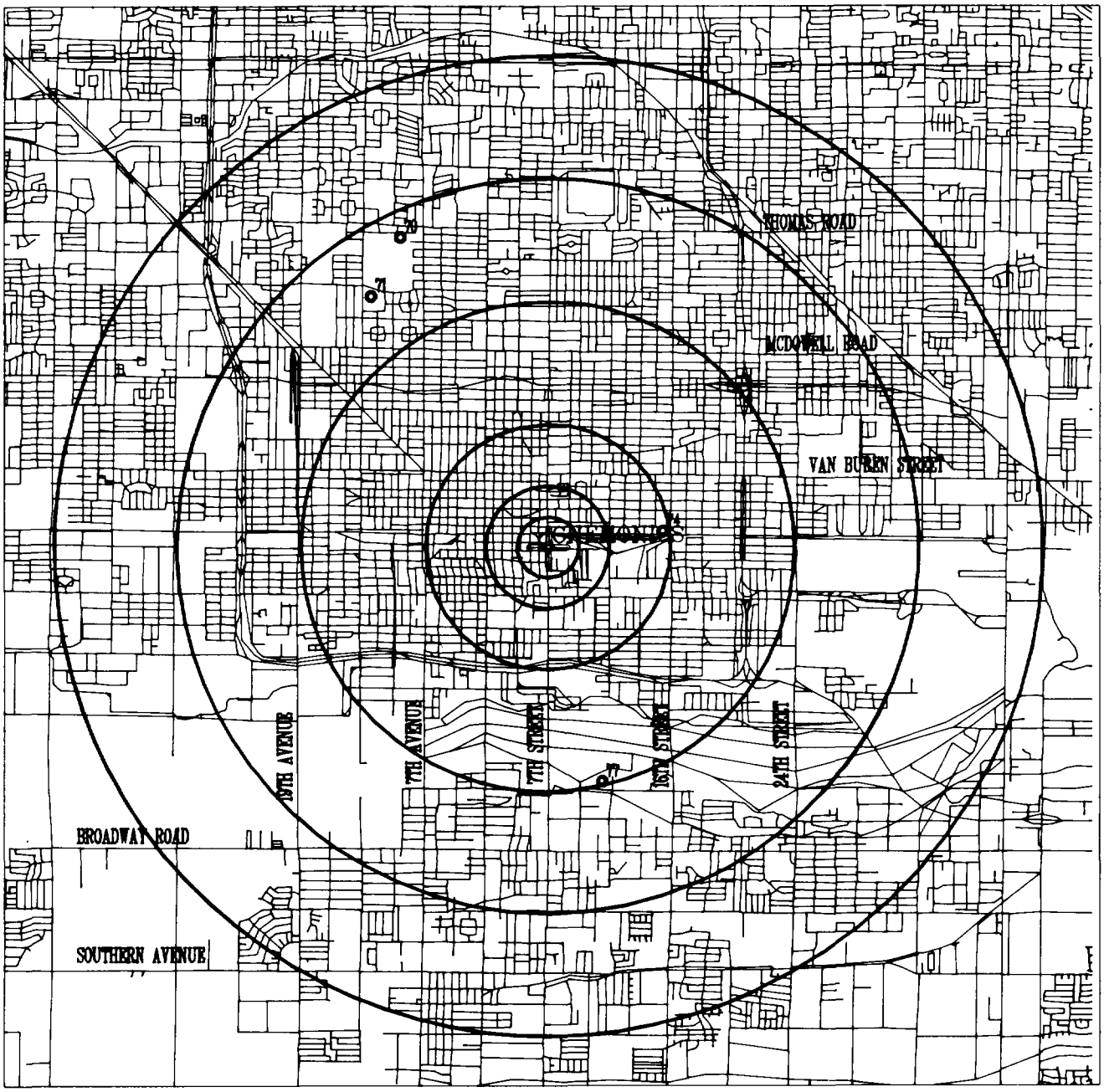
The surface soil deposits (upper 60 inches of the unsaturated zone) in the area around the Chemonics site belong to the Cashion Series. The Cashion soil series consist of deep, well-drained soils of recent alluvium that was deposited on flood plains and low terraces along the Gila and Salt Rivers. The slope of the soil is generally less than 1 percent. The permeability of this association is rated as slow (0.1 to 0.4 inches/hour). The soil is moderately to strongly alkaline and slighlty to strongly saline and the runoff is slow and the erosion hazard is slight. (27)

Well driller's logs in the area characterize the unsaturated zone as sands, clays, and gravel.(4) The hydraulic conductivity of these heterogeneous sediments is estimated to be 10^{-4} cm/sec. There does not appear to be a continuous clay layer through the area.(23)

4.2.2 Groundwater Targets

There are only 4 active COP public supply wells located within a 4-mile radius of the site. (See Figure 3).(28)

SITE LOCATION AND WELLS IN THE VICINITY OF CHEMONICS



ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

FIGURE 4 — SITE LOCATION AND WELLS IN THE VICINITY OF CHEMONICS

The nearest municipal well to the site is a COP Well, approximately ½ mile east of the Chemonics facility.(28)

The closest active public supply well is located between 1/2 and 1 miles from the Chemonics facility; it is the COP well mentioned above.(28)

In 1991, the most recent data available, COP pumped 26,150 acre-feet (af) of groundwater. [An acre-foot is equivalent to 43,560 cubic feet (one acre) times 7.48 gallons per cubic feet or approximately 325,829 gallons.] The average percentage of pumped groundwater used for public supply is approximately 15%.(31)

Water from COP public supply wells is blended with water from other COP public supply wells, as well as treated surface water, and distributed to the Phoenix metropolitan area.(48) Due to the high degree of interconnection within the water supply system, the target population is the population of the COP metropolitan area, 1,014,921 people, based on data provided by the Arizona State Data Center.(29) Based on this information, each of the four public wells identified were apportioned to actual population served. The actual acrefeet of water pumped for each well in 1991 was divided by the 26,150 af pumped by COP in 1991. This value was then multiplied by the percent of pumped groundwater used to supply the public. This value was then multiplied to the census number for the metropolitan area to obtain well attribution.

By apportionment well #70 serves 314 persons; well #71 serves 256 persons; well #74 serves 87 persons; well #77 serves 23 persons. These four wells are COP production wells.

4.2.3 Groundwater Pathway Conclusion

There have been no documented releases to the groundwater from the Chemonics facility and the current potential to release is low due to the following factors:

- Chemonics uses no CERCLA listed hazardous materials.
- Depth to water is greater than 100 feet below the land surface.
- There is no analytical data to support groundwater contamination attributable to the site.
- The number of associated population is small due to the public water supply system being a blended system.

4.3 Surface Water Pathway

4.3.1 Hydrogeologic Setting

The Salt River is located 1.3 miles south of the site, regionally downgradient. However, the area is fairly flat with a gentle southward slope of 0 to 1 per cent. There are no downstream drinking water intakes within 15 miles of the probable point of entry for the Salt River.(32)

The site does not appear to have a potential for release due to the flatness of the site and that storm drains are located at the site to collect runoff. (12)

The stretch of the Salt River near the site does not support a habitat for any sensitive species.(9)

The Salt River is usually dry until water is released from upstream dams. (1)

The 2 year-24 hour rainfall is 1.6 inches.(5)

The Chemonics facility is located in the 500-year flood plain.(6)

4.3.2 Surface Water Targets

There is no target population for the surface water pathway.

4.3.3 Surface Water Pathway Conclusion

There has been no documented release to surface water and the current potential to release is low due to the following factors:

- Surface water is not used for human consumption.
- Surface water is greater than 1 mile away from the site.
- There is no potential impact to sensitive environments along the surface water pathway.

4.4 Soil Exposure and Air Pathway

4.4.1 Physical Conditions

The nearest workplace is directly adjacent to the Chemonics facility to the west and to the east.(12) The nearest residence appears to be approximately ¼ mile south of the facility based on area maps.(16)

The entire site is asphalt or concrete except where the rail spur remains in dirt.(15)

4.4.2 Soil and Air Targets

The site is fenced and access to the facility is restricted by gates and the rail spur is only accessible from the east side through private property. There are approximately 60 people currently employed by Chemonics and the other leasees at this site.(12)

The population distribution within a 4-mile radius of the site is as follows (8):

Distance (miles)	Population
0 to 0.25	992
0.25 to 0.50	993
0.50 to 1	11,836
1 to 2	33,704
2 to 3	30,777
3 to 4	40,000
Total	118,302

The nearest school to the site is the North Faith School which is an alternative school, located at 911 E. Washington Street, approximately 1/3 mile northeast of the site. The enrollment for this school is approximately 120 students.(7)

There are no Federal or State endangered species, critical habitats, wetlands, or wildlife areas within a 4-mile radius of the Chemonics facility.(9)

4.4.3 Soil Exposure and Air Pathway Conclusion

There have been no documented releases to the air. The current potential for releases at the site is low due to the following factors:

- Lack of current volatile chemical usage at the site.
- Lack of resident population directly on-site.
- Site is fenced and access to the facility is restricted by two gates.
- Nearby population living or attending school is greater than 1/4 mile from the facility.

5.0 EMERGENCY RESPONSE CONSIDERATIONS

The National Contingency Plan [40 CFR 300.415(b)(2)] authorizes the EPA to consider emergency response actions at those sites which pose an imminent threat to human health or the environment.

- There is no immediate threat to human life or to the environment, therefore, referral to Region IX's Emergency Response Section does not appear to be necessary.
- There is documented pesticide contamination in the soil in the rail spur area and there is a potential for exposure to the workers on site; removal actions may be warranted at this site.

6.0 OTHER CONSIDERATIONS

There are no other apparent considerations at the site.

7.0 SUMMARY

The Chemonics facility is located at 734 E. Southern Pacific Drive, Phoenix, Arizona, 85034. The geographic coordinates are 33° 27' 15" N latitude and 112° 04' 45" W longitude [Township 1 North, Range 3 East, Section 09, (A-01-03)09cbb)].

Prior to the 1920's, the Chemonics facility was vacant land. Until the 1940's, the area was used as part of the Southern Pacific Railyard. During the 1940's through the early 1960's, fertilizer and pesticide formulators were located at the site. In the 1960's, pool chemical companies were located at the site. During the 1970's, Chemonics began developing fire retardant products. Other operations at the site include the McKenzie Laboratory (an agricultural laboratory), Available Metals (a precious metals refining operation) and Government Innovators (a manufacturer of garbage trucks).

Historic chemical usage and waste disposal practices are not well documented since most of the companies that operated at the 734 parcel long ago ceased operations.

In the process, Chemonics uses compounds in the fire retardant manufacturing like ammonium sulfate and sodium ferrocyanite. Chemonics also reportedly does not use and has not used chlorinated solvents in their process.

According to Chemonics, no large volumes of chlorinated solvents were ever used by the laboratory (McKenzie) while it was operating at this site. Disposal of the solvents consisted of use initially of an evaporation dish located outside. The pan was contained inside of a secondary catch basin in case of spills or rupture of the dish. The solvent sludge was removed by a hazardous waste contractor. The dish was used until 1987. The waste solvent was then collected into 55 gallon waste drums and removed by a hazardous waste contractor. McKenzie relocated from this site in 1989.

Chemonics, at this address, does not have a RCRA Generator ID Number but McKenzie Laboratory did; there is no listing of compliance issues in the records. There is no files on any Emergency Response issues at this site.

The Maricopa County does have an operational air permit for Available Metals at the 734 parcel. Chemonics does not have one for the operations at this address.

There are three drywells on the site for storm water runoff; the drywells are in the process of being closed out with ADEQ. There was no evidence of USTs on the site. Chemonics does not have an APP though they have applied for one to close out the drywells.

The pertinent HRS factors for the site are:

- Soil sample results do indicate the presence of chlorinated pesticides at the site but the likelihood of migration is low due to the arid climate.
- The associated population that drinks the groundwater in the area is low.
- Surface water is not used for human consumption.
- Lack of resident population directly on-site.
- Site is fenced and access to the facility is restricted by two gates.
- Nearby population living or attending school is 1/4 mile from the facility.

8.0 ADEQ MANAGEMENT REVIEW/CONCURRENCE

CHEMONICS LABORATORY DIVISION MCKENZIE, CERCLIS #AZD057907883

Signature

8-31-93
Date

SECTION 9.0

REMEDIAL SITE ASSESSMENT DECISION - EPA REGION IX

Site Name: Chemonics Laboratory Division McKenzie **EPA ID#:** AZD057907883

Alias Site Names: _____

City: Phoenix, Arizona **County or Parish:** Maricopa County **State:** Arizona

Refer to Report Dated: September 1, 1993 **Report type:** SSI

Report developed by: Debi Malone / AZ Dept of Env. Quality

DECISION:

| | 1. **Further Remedial Site Assessment under CERCLA (Superfund) is not required because:**

| | 1a. Site does not qualify for further remedial site assessment under CERCLA (Site Evaluation Accomplished - SEA)

| | 1b. Site may qualify for further action, but is deferred to: | | RCRA | | NRC

| | 2. **Further Assessment Needed Under CERCLA:** 2a. (optional) Priority: | | Higher | | Lower

2b. Activity Type: | | PA | | SI | | ESI | | HRS evaluation

| | Other: _____

DISCUSSION/RATIONALE: _____

Report Reviewed and Approved by: _____ **Signature:** _____ **Date:** 9-24-93

Site Decision Made by: _____ **Signature:** _____ **Date:** 9-24-93

10.0 REFERENCES

1. Easley, Robert, Preliminary Assessment, Chemonics Laboratory Division McKenzie, Ecology and Environment. August 1990.

2. Arizona Department of Environmental Quality, WQARF Files for Chemonics.

3. Kleinfelder Inc., Water Quality Assurance Revolving Fund Phase I Report, Eastlake Park, Task Assignment E-1, Phoenix, Arizona. August 1989.

4. Arizona Department of Environmental Quality, WQARF Files for Capitol Engineering.

5. NOAA Atlas 2, Volume VIII, U. S. Department of Commerce, National Oceanic and Atmospheric Administration, National Weather Service, Office of Hydrology. 1973.

6. Flood Insurance Rate Maps, Federal Emergency Management Agency, Map #04013C2110 D, Maricopa County, Arizona and Incorporated Areas, Panel 2145, Effective date April 15, 1988.

7. Contact Report, Deborah F. Malone, Arizona Department of Environmental Quality and ACE North Faith Alternative School, August 24, 1993.

8. Arizona State Data Center, Population Statistics Unit, Arizona Department of Economic Security, 1990 Census Data. March 1991.

9. Letter from Bruce Palmer, Nongame Habitat Specialist, Arizona Game and Fish Department, to Michael Bellot, Arizona Department of Environmental Quality. September 14, 1989.

10. Contact Report, Deborah F. Malone, Arizona Department of Environmental Quality and the Emergency Response Incident Logbooks (1984-1992). February 24, 1993.

11. Contact Report, Deborah F. Malone, Arizona Department of Environmental Quality and Barbara Herron, Arizona Department of Environmental Quality UST Section, May 24, 1993.

12. Site Visit of Chemonics, June 9, 1993.

13. Contact Report, Deborah F. Malone, Arizona Department of Environmental Quality and Dawn Pownell-Palmer, Arizona Department of Environmental Quality Drywell Unit, February 24, 1993.

14. Contact Report, Deborah F. Malone, Arizona Department of Environmental Quality and the ADEQ Water Pollution Compliance Database, February 24, 1993.

15. Drive by visit to Chemonics by Deborah F. Malone and Susan T. Fitch, Arizona Department of Environmental Quality, November 1992.

16. United States Department of the Interior Geological Survey, 7.5 minute topographic quadrangle map, Phoenix, Arizona. 1952, Photorevised 1982.

17. Records Searches for years 1940-1992, Cole's Directory Criss Cross-Cross Reference of Greater Phoenix, Cross Reference Publications; and Polk's Phoenix (Maricopa County, Arizona) City Directory, R.L. Polk & Co. Publishers, Dallas, TX.

18. Contact Report, Deborah F. Malone, Arizona Department of Environmental Quality and the Arizona Corporation Commission, August 20, 1993.

19. Contact Report, Deborah F. Malone, Arizona Department of Environmental Quality and the RCRA Database dated July 19, 1993.

20. Contact Report, B.J. Atwood, Maricopa County Air Pollution Control, and Deborah F. Malone, Arizona Department of Environmental Quality. November 10, 1992.

21. City of Phoenix Fire Department Files, November 1992.

22. Reeter, R.W. and Remick, W.H., Maps Showing Groundwater Conditions in the West Salt River, East Salt River, Lake Pleasant, Carefree and Fountain Hills Sub-basins of the Phoenix Active Management Area, Maricopa, Pinal and Yavapai Counties Arizona 1983., Department of Water Resources, Hydrologic Map Series, Report Number 12. July, 1986.

23. Brown, T.G. and Pool, D. R., Hydrogeology of the Western Part of the Salt River Valley Area, Maricopa County, Arizona, U.S. Geological Survey, Water Resources Investigations Report 84-4202. 1989.

24. Vogel, Timothy M. and McCarty, Perry L.,Biotransformation of Tetrachloroethylene to Trichloroethylene, Dichloroethylene, Vinyl Chloride, and Carbon Dioxide under Methanogenic Conditions, Applied and Environmental Microbiology, Vol. 49, No. 5. May 1985.

25. Barrio-Lage, Gladys, Parsons, Frances Z., Nassar, Raja S., and Lorenzo, Pedro A., Sequential Dehalogenation of Chlorinated Ethenes, Environmental Science Technology, Vol. 20, No. 1. 1986.

26. Climatic Atlas of the United States, U. S. Department of Commerce, Environmental Science Services Administration, Environmental Data Service. June 1968.

27. Hartman, George, Soil Survey of Maricopa County, Arizona, Central Part, U.S.

Department of Agriculture, Soil Conservation Service. 1977.

28. Arizona Department of Water Resources, Well Report, January 31, 1991.

29. Contact Report, Jamie Garrison, Arizona State Data Center, and Tom Lazzelle, Arizona Department of Environmental Quality. July 10, 1992.

30. Contact Report, Deborah F. Malone, Arizona Department of Environmental Quality and the Arizona Industrial Commission, November 1992.

31. Contact Report, Scott Goodwin, Arizona Department of Environmental Quality, to PASI Staff.

32. Contact Report, Tom Lazzelle, Arizona Department of Environmental Quality and Tim Phillips, Salt River Project, February, 1992.

33. Letter to Lowell Carty, ADEQ, from SP Environmentsl Systems, Inc. dated April 4, 1991.

34. Health-Based Guidance Levels, Arizona Department of Environmental Quality, June 1992.

APPENDIX A

PA/SI CONTACT LOG

Facility Name: Chemonics
EPA ID Number: AZD057907883

NAME	AFFILIATION	PHONE	DATE	INFORMATION
Drive by			Nov. 1992	See Contact Report
Marshal Krotenberg	Arizona OSHA	542-5795	Nov. 10 1992	See Contact Report
B.J. Atwood	Maricopa County Air Pollution		Nov. 10 1992	See Contact Report
Bea Shreeve	ADEQ Hazardous Waste Compliance	207-4108	Aug. 24 1993	See Contact Report
	ADEQ Emergency Response Logbooks		Feb. 24 1993	See Contact Report
Dawn Palmer	ADEQ Drywells	207-4686	Feb. 24 1993	See Contact Report
Database	ADEQ Water Pollution Comp.		Feb. 24 1993	See Contact Report
Barbara Herron	ADEQ UST Section	207-4334	May 24 1993	See Contact Report
Cathy	Arizona Corporation Comm.	542-5085	Aug. 24 1993	See Contact Report
	North Faith School	257-3911	Aug. 24 1993	See Contact Report

CONTACT REPORT

Agency Affiliation:		
Department:		
Address/City:		
County/State/Zip		
CONTACT	TITLE	PHONE
1. Drive By		
2.		
3.		
PERSON MAKING CONTACT: Debi Malone		DATE: 11/93
SUBJECT: Drive By of Chemonics		
SITE NAME: Chemonics	EPA ID: AZD057907883	

INFORMATION RECEIVED

On the drive by of Chemonics, it was noticed that the site is quite congested. Chemonics only occupies a small part of 734 East Southern Pacific Drive. There are additional companies located at this address also.

Capitol Engineering is located at ~~724~~ occupant. E. Southern Pacific Drive and is the west side occupancy. To the east is Alameda Scientific and a vacant lot. To the north is the Southern Pacific Rail Road Spur. To the south is a vacant large parking lot for new car deliveries to the valley.

Chemonics property seems to be entirely fenced by chain-link. Gates limit access to the site. There appears to be multiple buildings that comprise Chemonics.

CONTACT REPORT

Agency Affiliation: Arizona Industrial Commission		
Department: Occupational Health and Safety		
Address/City: 800 W. Washington, Phoenix		
County/State/Zip Maricopa, Arizona, 85007		
CONTACT	TITLE	PHONE
1. M. Krotenberg	IH III	542-5795
2.		
3.		
PERSON MAKING CONTACT: Debi Malone		DATE: 11/10/93
SUBJECT: OSHA Files for 734 E. Southern Pacific Drive		
SITE NAME: Chemonics	EPA ID: AZD057907883	

INFORMATION RECEIVED

According to the database, there is no listing for Chemonics.

CONTACT REPORT

Agency Affiliation: Maricopa County Dept. of Health Services		
Department: Air Pollution Division		
Address/City: P.O. Box 2111, Phoenix		
County/State/Zip Maricopa, Arizona, 85001		
CONTACT	TITLE	PHONE
1. B.J. Atwood		
2.		
3.		
PERSON MAKING CONTACT: Debi Malone		DATE: 11/10/92
SUBJECT: Permits issued for 734 East Southern Pacific Dr.		
SITE NAME: Chemonics	EPA ID: AZD057907883	

INFORMATION RECEIVED

According to the database, there is no listing for Chemonics.

This also confirms earlier documentation that Government Innovators and Available Metals did have air permits.

CONTACT REPORT

Agency Affiliation: Arizona Dept. of Environmental Quality		
Department: Hazardous Waste Inspections/ Compliance		
Address/City: 3033 N. Central Avenue, Phoenix		
County/State/Zip Maricopa, Arizona 85012		
CONTACT	TITLE	PHONE
1. RCRA Database		
2.		
3.		
PERSON MAKING CONTACT: Debi Malone		DATE: 08/20/93
SUBJECT: RCRA Listing for Chemonics/McKenzie		
SITE NAME: Chemonics	EPA ID: AZD057907883	

INFORMATION RECEIVED

Chemonics does not have a RCRA Generator ID Number nor is it listed in the RCRA Database, however McKenzie does have an EPA Generator Number: AZD981415086. ADEQ once had McKenzie listed as a Large Quantity Generator and conducted a RCRA Inspection accordingly. The laboratory is actually a Small Quantity Generator; McKenzie had no compliance or inspection violations posted in the July listing.

CONTACT REPORT

Agency Affiliation: Arizona Dept. of Environmental Quality		
Department: Emergency Response Unit		
Address/City: 3033 N. Central Ave. Phoenix		
County/State/Zip Maricopa, Arizona, 85012		
CONTACT	TITLE	PHONE
1. Incident logbook		
2.		
3.		
PERSON MAKING CONTACT: Debi Malone		DATE: 02/24/93
SUBJECT: ER Information for 734 E. Southern Pacific Dr.		
SITE NAME: Chemonics	EPA ID: AZD057907883	

INFORMATION RECEIVED

According to the logbooks, there is no listing for Chemonics.

CONTACT REPORT

Agency Affiliation: Arizona Dept. of Environmental Quality		
Department: Waste Water and Dry Well Unit		
Address/City: 3003 N. Central Ave. Phoenix		
County/State/Zip Maricopa, Arizona, 85012		
CONTACT	TITLE	PHONE
1. Dawn Palmer	Clerk/Typist	207-4686
2.		
3.		
PERSON MAKING CONTACT: Debi Malone		DATE: 02/24/93
SUBJECT: Dry wells listed for 734 E. Southern Pacific Dr.		
SITE NAME: Chemonics	EPA ID: AZD057907883	

INFORMATION RECEIVED

According to the database, there is no listing for Chemonics.

CONTACT REPORT

Agency Affiliation: Arizona Dept. of Environmental Quality		
Department: Water Pollution Compliance Unit		
Address/City: 3033 N. Central Ave. Phoenix		
County/State/Zip Maricopa, Arizona, 85012		
CONTACT	TITLE	PHONE
1. database		
2.		
3.		
PERSON MAKING CONTACT: Debi Malone		DATE: 02/24/93
SUBJECT: Permita issued for 734 East Southern Pacific Dr.		
SITE NAME: Chemonics	EPA ID: AZD057907883	

INFORMATION RECEIVED

According to the database, there is no listing for Chemonics.

CONTACT REPORT

Agency Affiliation: Arizona Dept. of Environmental Quality		
Department: Underground Storage Tank Section		
Address/City: 3003 N. Central Ave. Phoenix		
County/State/Zip Maricopa, Arizona, 85012		
CONTACT	TITLE	PHONE
1. Barbara Herron	R & SA II	207-4334
2.		
3.		
PERSON MAKING CONTACT: Debi Malone		DATE: 05/24/93
SUBJECT: UST Listing for 734 E. Southern Pacific Drive		
SITE NAME: Chemonics	EPA ID: AZD057907883	

INFORMATION RECEIVED

According to the database, there is no listing for Chemonics.

CONTACT REPORT

Agency Affiliation: Arizona Corporation Commission		
Department:		
Address/City:		
County/State/Zip		
CONTACT	TITLE	PHONE
1. Cathy		542-5085
2.		
3.		
PERSON MAKING CONTACT: Debi Malone		DATE: 08/20/93
SUBJECT: Listing for Chemonics/McKenzie		
SITE NAME: Chemonics	EPA ID: AZD057907883	

INFORMATION RECEIVED

Chemonics incorporated in the State of Arizona on March 31, 1972.

CONTACT REPORT

Agency Affiliation:		
Department: ACE North Faith Alternative School		
Address/City: 911 E. Washington St., Phoenix		
County/State/Zip Maricopa, Arizona 85034		
CONTACT	TITLE	PHONE
1.		257-3911
2.		
3.		
PERSON MAKING CONTACT: Debi Malone		DATE: 08/24/93
SUBJECT: Student Enrollment at the school		
SITE NAME: Chemonics	EPA ID: AZD057907883	

INFORMATION RECEIVED

North Faith is an alternative school located 1/3 mile north east of Chemonics. The expected student enrollment is 120. The school will consist of 5th through 8th grades this year.

APPENDIX B

Date: June 9, 1993

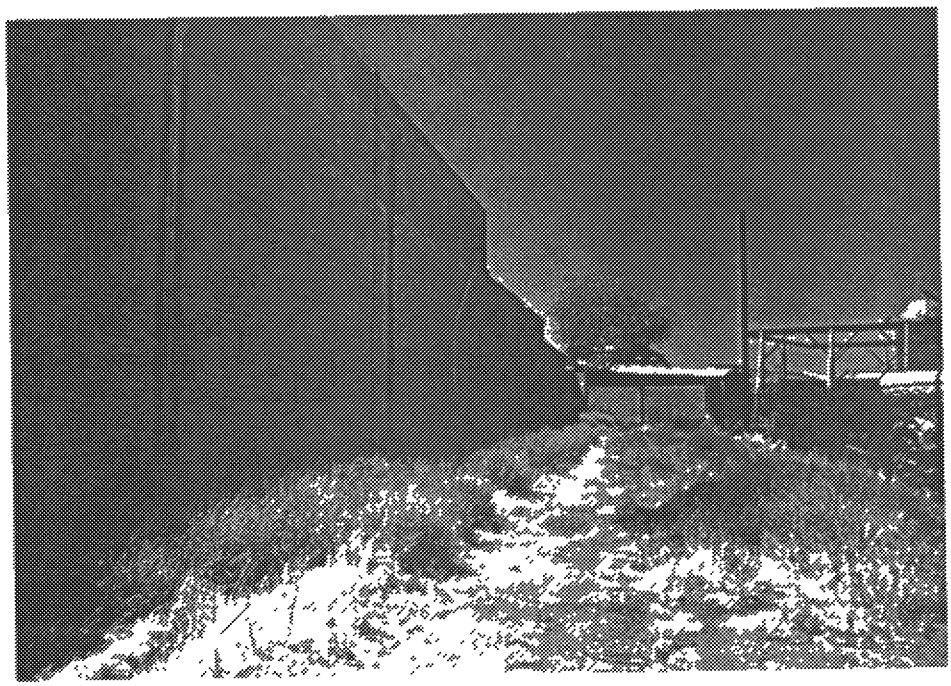
Time: 1000

Direction: North

Weather: Mostly sunny

Photographer:
Shelley Miller

Description:
735 E. Southern Pacific Dr.



Date: June 9, 1993

Time: 1000

Direction: West

Weather: Mostly sunny

Photographer:
Shelley Miller

Description:
Rail Spur Area

Date: June 9, 1993

Time: 1000

Direction: East

Weather: Mostly sunny

Photographer:
Shelley Miller

Description:
Rail Spur to the east

Date: June 9, 1993

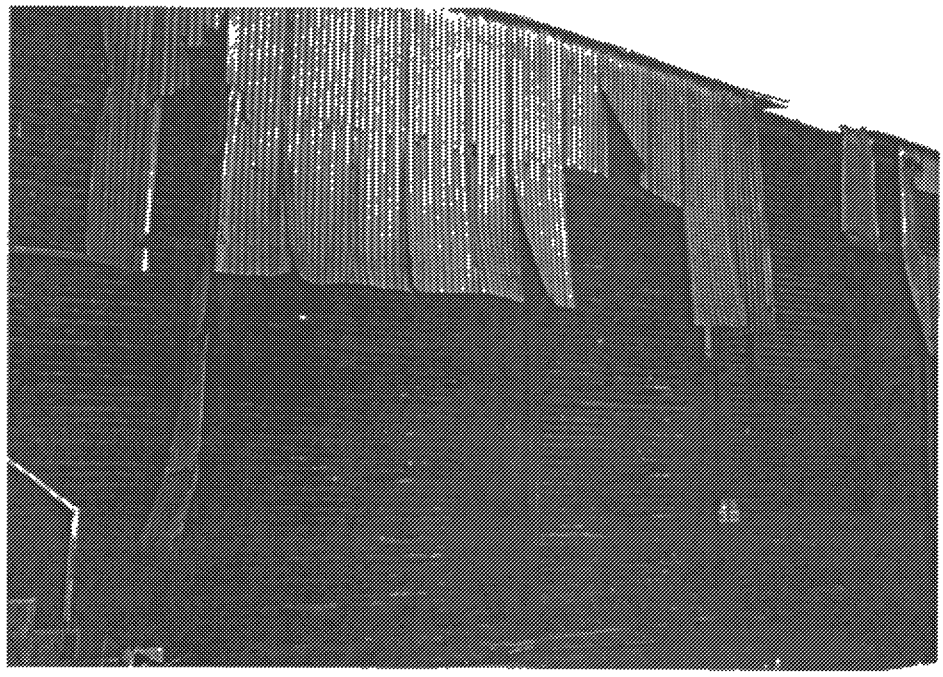
Time: 1000

Direction: South

Weather: Mostly sunny

Photographer:
Shelley Miller

Description:
Old Fertilizer storage



Date: June 9, 1993

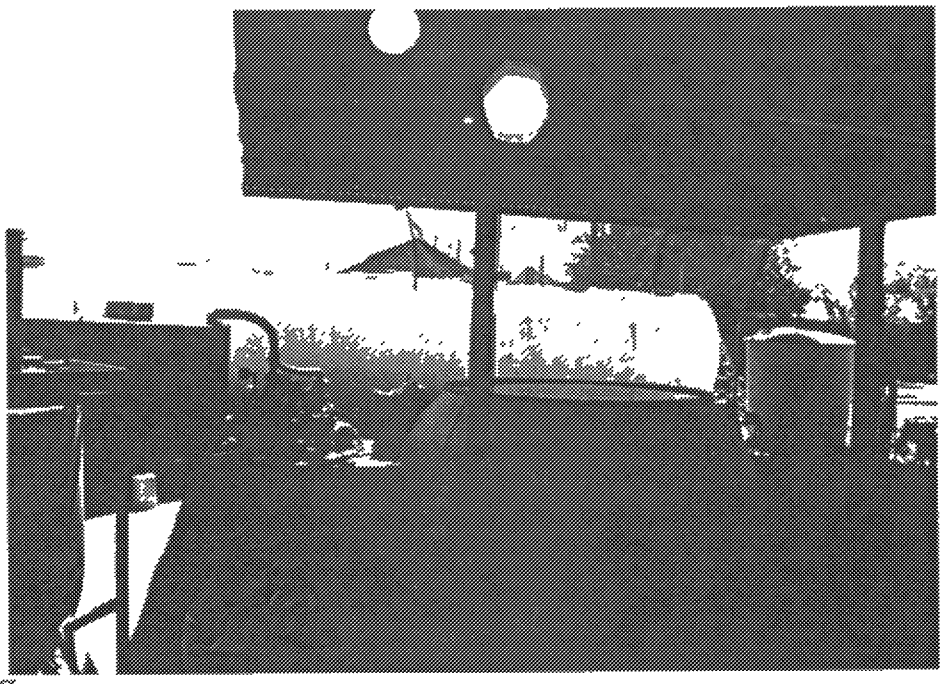
Time: 1000

Direction: East

Weather: Mostly sunny

Photographer:
Shelley Miller

Description:
Fire-trol product testing



Date: June 9, 1993

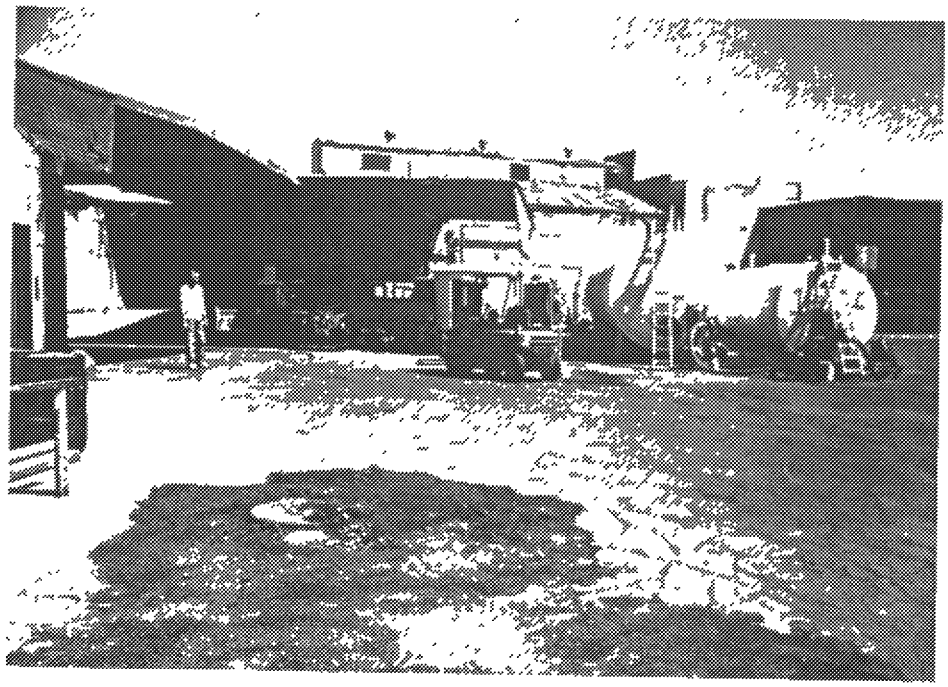
Time: 1000

Direction: North

Weather: Mostly sunny

Photographer:
Shelley Miller

Description:
Tanks of compounds that go into the Fire-trol



APPENDIX C

SITE RECONNAISSANCE INTERVIEW AND OBSERVATIONS REPORT

Arizona Department of Environmental Quality
3033 North Central Avenue
Phoenix, AZ 850012

OBSERVATIONS MADE BY: DATE: June 9, 1993

Debi Malone
Shelley Miller

FACILITY REPRESENTATIVE and TITLE:

Lloyd Aderhold, Director Environmental/Safety

SITE:

Chemonics Laboratory Division McKenzie

EPA ID: AZD057907883 STATE ID: 0376

INFORMATION RECEIVED:

Chemonics Industries strictly is in the research and development business for fire retardant products. McKenzie Laboratory was a division of Chemonics at one time. McKenzie is now its own company and is no longer located at this site. When the laboratory was located here, it was originally an agricultural lab providing soil profiles to farmers. It then expanded into the analytical chemistry branch; it was then that solvents were used. The solvents were disposed of by evaporation until 1986. A hazardous waste chemical disposal service was then hired to remove the waste solvents. No sampling has been done at the site for solvent determination. The original company that Chemonics spawned from was Arizona Agrochemical Company. It was located at this site from 1956-1985 til it relocated elsewhere in the Phoenix metropolitan area. The plant handled bulk fertilizers and pesticides. The fertilizers and pesticides were handled in bulk from the rail spur at the north of the site. The fertilizers were stored in large silos and gravity fed to trucks or smaller areas for repackaging for resale. The loading docks for the areas do slope into the property not away from it. A fence surrounds the site. Gates limit the access to the site. The rail spur is open but it is not easily accessible to the public. The actual spur is gone. No rail activity has been there for years. There is documented soil contamination by organochlorine pesticides along the rail spur. The contamination seems to be confined to the upper few feet of soil. The areas also tested away from the rail spur don't seem to show any contamination. The site is asphalt and concrete except for the rail spur which is dirt. Chemonics is planning to perform bioremediation on the pesticide contaminated soils in the rail spur area. Chemonics currently has no waste storage or disposal of CERCLA materials. McKenize Laboratory handles solvents but there is a documented disposal trail for them. There are drywells on the site which are in the process of being closed out with the APP program of ADEQ.

APPENDIX D

Analytical Technologies, Inc. 9830 S. 51st Street Suite B-113 Phoenix, AZ 85044 (602) 496-4400

ATI I.D. 110704

November 4, 1991

Chemonics Industries
734 E. Southern Pactific Drive
Phoenix, AZ 85034

Project Name/Number: Rail Spur 101491

Attention: Lloyd Aderhold

On 10/15/91, Analytical Technologies, Inc. received a request to analyze soil sample(s). The sample(s) were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

If you have any questions or comments, please do not hesitate to contact us at (602) 496-4400.

Mary A. Tyer
Mary Tyer
Project Manager

Robert V. Woods
Robert V. Woods
Laboratory Manager

RVW:clf
Enclosure

Analytical Technologies, Inc.

CLIENT : CHEMONICS INDUSTRIES
PROJECT # : 101491
PROJECT NAME : RAIL SPUR

DATE RECEIVED : 10/15/91
REPORT DATE : 11/04/91

ATI I.D. : 110704

ATI #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	CI-1-4	SOIL	10/14/91
02	CI-8-1	SOIL	10/14/91
03	CI-8-2	SOIL	10/14/91
04	CI-8-3	SOIL	10/14/91
05	CI-9-1	SOIL	10/14/91
06	CI-9-2	SOIL	10/14/91
07	CI-9-3	SOIL	10/14/91
08	CI-9-4	SOIL	10/14/91
09	CI-10-1	SOIL	10/14/91
10	CI-10-2	SOIL	10/14/91
11	CI-10-3	SOIL	10/14/91
12	CI-11-1	SOIL	10/14/91
13	CI-11-2	SOIL	10/14/91
14	CI-11-3	SOIL	10/14/91
15	CI-11-4	SOIL	10/14/91
16	CI-12-1	SOIL	10/14/91
17	CI-12-2	SOIL	10/14/91
18	CI-12-3	SOIL	10/14/91
19	CI-13-1	SOIL	10/14/91
20	CI-13-2	SOIL	10/14/91
21	CI-13-3	SOIL	10/14/91
22	CI-14-1	SOIL	10/14/91
23	CI-14-2	SOIL	10/14/91
24	CI-14-3	SOIL	10/14/91
25	CI-15-1	SOIL	10/14/91
26	CI-15-2	SOIL	10/14/91
27	CI-15-3	SOIL	10/14/91
28	CI-16-1	SOIL	10/14/91
29	CI-16-2	SOIL	10/14/91
30	CI-16-3	SOIL	10/14/91
31	CI-16-4	SOIL	10/14/91
32	CI-17-1	SOIL	10/14/91
33	CI-18-1	SOIL	10/14/91
34	CI-18-1	AQUEOUS	10/14/91

----- TOTALS -----

MATRIX	# SAMPLES
SOIL	33
AQUEOUS	1

ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

Analytical Technologies, Inc.

GENERAL CHEMISTRY - QUALITY CONTROL

CLIENT : CHEMONICS INDUSTRIES
PROJECT # : 101491
PROJECT NAME : RAIL SPUR ATI I.D. : 110704

PARAMETER	UNITS	ATI I.D.	SAMPLE RESULT	DUP. RESULT	RPD	SPIKED SAMPLE	SPIKE CONC	% REC
NITRITE/NITRATE-N (TOT	MG/L	11070434	140	140	0	NA	NA	NA

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 11070401

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	DATE SAMPLED	: 10/14/91
PROJECT #	: 101491	DATE RECEIVED	: 10/15/91
PROJECT NAME	: RAIL SPUR	DATE EXTRACTED	: 10/16/91
CLIENT I.D.	: CI-1-4	DATE ANALYZED	: 10/24/91
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 200

COMPOUNDS	RESULTS
ALDRIN	<1.00
ALPHA - BHC	9.8
BETA - BHC	2.9
GAMMA - BHC	11.3
DELTA - BHC	8.8
ALPHA-CHLORDANE	<10.0
GAMMA-CHLORDANE	<10.0
4,4'-DDD	4
4,4'-DDE	5
4,4'-DDT	56
DIELDRIN	<2.0
ENDOSULFAN I	<2.0
ENDOSULFAN II	<2.0
ENDOSULFAN SULFATE	<2.0
ENDRIN	<2.0
ENDRIN KETONE	<2.0
HEPTACHLOR	<1.00
HEPTACHLOR EPOXIDE	<1.00
METHOXYCHLOR	<10.0
TOXAPHENE	70
AROCLOR 1016	<5.00
AROCLOR 1221	<5.00
AROCLOR 1232	<5.00
AROCLOR 1242	<5.00
AROCLOR 1248	<5.00
AROCLOR 1254	<5.00
AROCLOR 1260	<5.00

SURROGATE PERCENT RECOVERIES

DBC (%)	**

** Due to the necessary dilution of the sample, result was not attainable

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 11070402

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	DATE SAMPLED	: 10/14/91
PROJECT #	: 101491	DATE RECEIVED	: 10/15/91
PROJECT NAME	: RAIL SPUR	DATE EXTRACTED	: 10/16/91
CLIENT I.D.	: CI-8-1	DATE ANALYZED	: 10/25/91
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 20

COMPOUNDS	RESULTS
ALDRIN	<0.100
ALPHA - BHC	<0.100
BETA - BHC	<0.100
GAMMA - BHC	<0.100
DELTA - BHC	<0.100
ALPHA-CHLORDANE	<1.0
GAMMA-CHLORDANE	<1.0
4,4'-DDD	<0.2
4,4'-DDE	1.1
4,4'-DDT	0.9
DIELDRIN	<0.2
ENDOSULFAN I	<0.2
ENDOSULFAN II	<0.2
ENDOSULFAN SULFATE	<0.2
ENDRIN	<0.2
ENDRIN KETONE	<0.2
HEPTACHLOR	<0.100
HEPTACHLOR EPOXIDE	<0.100
METHOXYCHLOR	<1.0
TOXAPHENE	4
AROCLOR 1016	<0.500
AROCLOR 1221	<0.500
AROCLOR 1232	<0.500
AROCLOR 1242	<0.500
AROCLOR 1248	<0.500
AROCLOR 1254	<0.500
AROCLOR 1260	<0.500

SURROGATE PERCENT RECOVERIES

DBC (%)	**

** Due to the necessary dilution of the sample, result was not attainable

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 11070403

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	DATE SAMPLED	: 10/14/91
PROJECT #	: 101491	DATE RECEIVED	: 10/15/91
PROJECT NAME	: RAIL SPUR	DATE EXTRACTED	: 10/16/91
CLIENT I.D.	: CI-8-2	DATE ANALYZED	: 10/25/91
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 20

COMPOUNDS	RESULTS
ALDRIN	<0.100
ALPHA - BHC	<0.100
BETA - BHC	0.2
GAMMA - BHC	<0.100
DELTA - BHC	<0.100
ALPHA-CHLORDANE	<1.0
GAMMA-CHLORDANE	<1.0
4,4'-DDD	<0.2
4,4'-DDE	2.8
4,4'-DDT	2.6
DIELDRIN	<0.2
ENDOSULFAN I	<0.2
ENDOSULFAN II	<0.2
ENDOSULFAN SULFATE	<0.2
ENDRIN	<0.2
ENDRIN KETONE	<0.2
HEPTACHLOR	<0.100
HEPTACHLOR EPOXIDE	<0.100
METHOXYCHLOR	<1.0
TOXAPHENE	8
AROCLOR 1016	<0.500
AROCLOR 1221	<0.500
AROCLOR 1232	<0.500
AROCLOR 1242	<0.500
AROCLOR 1248	<0.500
AROCLOR 1254	<0.500
AROCLOR 1260	<0.500

SURROGATE PERCENT RECOVERIES

DBC (%)	**

** Due to the necessary dilution of the sample, result was not attainable

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 11070404

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	DATE SAMPLED	: 10/14/91
PROJECT #	: 101491	DATE RECEIVED	: 10/15/91
PROJECT NAME	: RAIL SPUR	DATE EXTRACTED	: 10/16/91
CLIENT I.D.	: CI-8-3	DATE ANALYZED	: 10/25/91
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 10

COMPOUNDS	RESULTS
ALDRIN	<0.050
ALPHA - BHC	<0.050
BETA - BHC	0.12
GAMMA - BHC	<0.050
DELTA - BHC	<0.050
ALPHA-CHLORDANE	<0.5
GAMMA-CHLORDANE	<0.5
4,4'-DDD	<0.1
4,4'-DDE	0.2
4,4'-DDT	0.2
DIELDRIN	<0.1
ENDOSULFAN I	<0.1
ENDOSULFAN II	<0.1
ENDOSULFAN SULFATE	<0.1
ENDRIN	<0.1
ENDRIN KETONE	<0.1
HEPTACHLOR	<0.050
HEPTACHLOR EPOXIDE	<0.050
METHOXYCHLOR	<0.5
TOXAPHENE	<1.0
AROCLOR 1016	<0.250
AROCLOR 1221	<0.250
AROCLOR 1232	<0.250
AROCLOR 1242	<0.250
AROCLOR 1248	<0.250
AROCLOR 1254	<0.250
AROCLOR 1260	<0.250

SURROGATE PERCENT RECOVERIES

DBC (%)	124

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 11070405

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	DATE SAMPLED	: 10/14/91
PROJECT #	: 101491	DATE RECEIVED	: 10/15/91
PROJECT NAME	: RAIL SPUR	DATE EXTRACTED	: 10/16/91
CLIENT I.D.	: CI-9-1	DATE ANALYZED	: 10/25/91
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 10

COMPOUNDS	RESULTS
ALDRIN	<0.050
ALPHA - BHC	<0.050
BETA - BHC	0.05
GAMMA - BHC	<0.050
DELTA - BHC	<0.050
ALPHA-CHLORDANE	<0.5
GAMMA-CHLORDANE	<0.5
4,4'-DDD	<0.1
4,4'-DDE	0.3
4,4'-DDT	0.6
DIELDRIN	<0.1
ENDOSULFAN I	<0.1
ENDOSULFAN II	<0.1
ENDOSULFAN SULFATE	<0.1
ENDRIN	<0.1
ENDRIN KETONE	<0.1
HEPTACHLOR	<0.050
HEPTACHLOR EPOXIDE	<0.050
METHOXYCHLOR	<0.5
TOXAPHENE	3
AROCLOR 1016	<0.250
AROCLOR 1221	<0.250
AROCLOR 1232	<0.250
AROCLOR 1242	<0.250
AROCLOR 1248	<0.250
AROCLOR 1254	<0.250
AROCLOR 1260	<0.250
SURROGATE PERCENT RECOVERIES	
DBC (%)	110

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 11070406

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	DATE SAMPLED	: 10/14/91
PROJECT #	: 101491	DATE RECEIVED	: 10/15/91
PROJECT NAME	: RAIL SPUR	DATE EXTRACTED	: 10/18/91
CLIENT I.D.	: CI-9-2	DATE ANALYZED	: 10/26/91
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
ALDRIN	<0.005
ALPHA - BHC	<0.005
BETA - BHC	<0.005
GAMMA - BHC	<0.005
DELTA - BHC	<0.005
ALPHA-CHLORDANE	<0.05
GAMMA-CHLORDANE	<0.05
4,4'-DDD	<0.01
4,4'-DDE	<0.01
4,4'-DDT	<0.01
DIELDRIN	<0.01
ENDOSULFAN I	<0.01
ENDOSULFAN II	<0.01
ENDOSULFAN SULFATE	<0.01
ENDRIN	<0.01
ENDRIN KETONE	<0.01
HEPTACHLOR	<0.005
HEPTACHLOR EPOXIDE	<0.005
METHOXYCHLOR	<0.05
TOXAPHENE	<0.1
AROCLOR 1016	<0.025
AROCLOR 1221	<0.025
AROCLOR 1232	<0.025
AROCLOR 1242	<0.025
AROCLOR 1248	<0.025
AROCLOR 1254	<0.025
AROCLOR 1260	<0.025
SURROGATE PERCENT RECOVERIES	
DBC (%)	94

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 11070407

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	DATE SAMPLED	: 10/14/91
PROJECT #	: 101491	DATE RECEIVED	: 10/15/91
PROJECT NAME	: RAIL SPUR	DATE EXTRACTED	: 10/18/91
CLIENT I.D.	: CI-9-3	DATE ANALYZED	: 10/26/91
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
ALDRIN	<0.005
ALPHA - BHC	<0.005
BETA - BHC	<0.005
GAMMA - BHC	<0.005
DELTA - BHC	<0.005
ALPHA-CHLORDANE	<0.05
GAMMA-CHLORDANE	<0.05
4,4'-DDD	<0.01
4,4'-DDE	<0.01
4,4'-DDT	<0.01
DIELDRIN	<0.01
ENDOSULFAN I	<0.01
ENDOSULFAN II	<0.01
ENDOSULFAN SULFATE	<0.01
ENDRIN	<0.01
ENDRIN KETONE	<0.01
HEPTACHLOR	<0.005
HEPTACHLOR EPOXIDE	<0.005
METHOXYCHLOR	<0.05
TOXAPHENE	<0.1
AROCLOR 1016	<0.025
AROCLOR 1221	<0.025
AROCLOR 1232	<0.025
AROCLOR 1242	<0.025
AROCLOR 1248	<0.025
AROCLOR 1254	<0.025
AROCLOR 1260	<0.025
SURROGATE PERCENT RECOVERIES	
DBC (%)	90

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 11070408

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	DATE SAMPLED	: 10/14/91
PROJECT #	: 101491	DATE RECEIVED	: 10/15/91
PROJECT NAME	: RAIL SPUR	DATE EXTRACTED	: 10/18/91
CLIENT I.D.	: CI-9-4	DATE ANALYZED	: 10/26/91
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
ALDRIN	<0.005
ALPHA - BHC	<0.005
BETA - BHC	<0.005
GAMMA - BHC	<0.005
DELTA - BHC	<0.005
ALPHA-CHLORDANE	<0.05
GAMMA-CHLORDANE	<0.05
4,4'-DDD	<0.01
4,4'-DDE	<0.01
4,4'-DDT	<0.01
DIELDRIN	<0.01
ENDOSULFAN I	<0.01
ENDOSULFAN II	<0.01
ENDOSULFAN SULFATE	<0.01
ENDRIN	<0.01
ENDRIN KETONE	<0.01
HEPTACHLOR	<0.005
HEPTACHLOR EPOXIDE	<0.005
METHOXYCHLOR	<0.05
TOXAPHENE	<0.1
AROCLOR 1016	<0.025
AROCLOR 1221	<0.025
AROCLOR 1232	<0.025
AROCLOR 1242	<0.025
AROCLOR 1248	<0.025
AROCLOR 1254	<0.025
AROCLOR 1260	<0.025
SURROGATE PERCENT RECOVERIES	
DBC (%)	92

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 11070409

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	DATE SAMPLED	: 10/14/91
PROJECT #	: 101491	DATE RECEIVED	: 10/15/91
PROJECT NAME	: RAIL SPUR	DATE EXTRACTED	: 10/18/91
CLIENT I.D.	: CI-10-1	DATE ANALYZED	: 10/26/91
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 20

COMPOUNDS	RESULTS
ALDRIN	0.4
ALPHA - BHC	<0.100
BETA - BHC	0.2
GAMMA - BHC	0.2
DELTA - BHC	<0.100
ALPHA-CHLORDANE	<1.0
GAMMA-CHLORDANE	<1.0
4,4'-DDD	<0.2
4,4'-DDE	2.5
4,4'-DDT	6.2
DIELDRIN	0.3
ENDOSULFAN I	<0.2
ENDOSULFAN II	<0.2
ENDOSULFAN SULFATE	<0.2
ENDRIN	<0.2
ENDRIN KETONE	<0.2
HEPTACHLOR	<0.100
HEPTACHLOR EPOXIDE	<0.100
METHOXYCHLOR	<1.0
TOXAPHENE	12
AROCLOR 1016	<0.500
AROCLOR 1221	<0.500
AROCLOR 1232	<0.500
AROCLOR 1242	<0.500
AROCLOR 1248	<0.500
AROCLOR 1254	<0.500
AROCLOR 1260	<0.500

SURROGATE PERCENT RECOVERIES

DBC (%)	**

** Due to the necessary dilution of the sample, result was not attainable

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 11070410

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	DATE SAMPLED	: 10/14/91
PROJECT #	: 101491	DATE RECEIVED	: 10/15/91
PROJECT NAME	: RAIL SPUR	DATE EXTRACTED	: 10/18/91
CLIENT I.D.	: CI-10-2	DATE ANALYZED	: 10/27/91
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 5

COMPOUNDS	RESULTS
ALDRIN	<0.025
ALPHA - BHC	<0.025
BETA - BHC	<0.025
GAMMA - BHC	<0.025
DELTA - BHC	<0.025
ALPHA-CHLORDANE	<0.25
GAMMA-CHLORDANE	<0.25
4,4'-DDD	<0.05
4,4'-DDE	0.01
4,4'-DDT	0.02
DIELDRIN	<0.05
ENDOSULFAN I	<0.05
ENDOSULFAN II	<0.05
ENDOSULFAN SULFATE	<0.05
ENDRIN	<0.05
ENDRIN KETONE	<0.05
HEPTACHLOR	<0.025
HEPTACHLOR EPOXIDE	<0.025
METHOXYCHLOR	<0.25
TOXAPHENE	0.1
AROCLOR 1016	<0.125
AROCLOR 1221	<0.125
AROCLOR 1232	<0.125
AROCLOR 1242	<0.125
AROCLOR 1248	<0.125
AROCLOR 1254	<0.125
AROCLOR 1260	<0.125

SURROGATE PERCENT RECOVERIES

DBC (%)	106

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 11070411

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	DATE SAMPLED	: 10/14/91
PROJECT #	: 101491	DATE RECEIVED	: 10/15/91
PROJECT NAME	: RAIL SPUR	DATE EXTRACTED	: 10/18/91
CLIENT I.D.	: CI-10-3	DATE ANALYZED	: 10/26/91
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
ALDRIN	<0.005
ALPHA - BHC	<0.005
BETA - BHC	<0.005
GAMMA - BHC	<0.005
DELTA - BHC	<0.005
ALPHA-CHLORDANE	<0.05
GAMMA-CHLORDANE	<0.05
4,4'-DDD	<0.01
4,4'-DDE	<0.01
4,4'-DDT	0.02
DIELDRIN	<0.01
ENDOSULFAN I	<0.01
ENDOSULFAN II	<0.01
ENDOSULFAN SULFATE	<0.01
ENDRIN	<0.01
ENDRIN KETONE	<0.01
HEPTACHLOR	<0.005
HEPTACHLOR EPOXIDE	<0.005
METHOXYCHLOR	<0.05
TOXAPHENE	<0.1
AROCLOR 1016	<0.025
AROCLOR 1221	<0.025
AROCLOR 1232	<0.025
AROCLOR 1242	<0.025
AROCLOR 1248	<0.025
AROCLOR 1254	<0.025
AROCLOR 1260	<0.025
SURROGATE PERCENT RECOVERIES	
DBC (%)	104

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 11070412

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	DATE SAMPLED	: 10/14/91
PROJECT #	: 101491	DATE RECEIVED	: 10/15/91
PROJECT NAME	: RAIL SPUR	DATE EXTRACTED	: 10/18/91
CLIENT I.D.	: CI-11-1	DATE ANALYZED	: 10/26/91
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 20

COMPOUNDS	RESULTS
ALDRIN	<0.100
ALPHA - BHC	<0.100
BETA - BHC	0.6
GAMMA - BHC	<0.100
DELTA - BHC	<0.100
ALPHA-CHLORDANE	<1.0
GAMMA-CHLORDANE	<1.0
4,4'-DDD	<0.2
4,4'-DDE	6.2
4,4'-DDT	2.4
DIELDRIN	0.6
ENDOSULFAN I	<0.2
ENDOSULFAN II	<0.2
ENDOSULFAN SULFATE	<0.2
ENDRIN	<0.2
ENDRIN KETONE	<0.2
HEPTACHLOR	<0.100
HEPTACHLOR EPOXIDE	<0.100
METHOXYCHLOR	<1.0
TOXAPHENE	11
AROCLOR 1016	<0.500
AROCLOR 1221	<0.500
AROCLOR 1232	<0.500
AROCLOR 1242	<0.500
AROCLOR 1248	<0.500
AROCLOR 1254	<0.500
AROCLOR 1260	<0.500

SURROGATE PERCENT RECOVERIES

DBC (%)	**

** Due to the necessary dilution of the sample, result was not attainable

Analytical Technologies, Inc

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 11070413

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	DATE SAMPLED	: 10/14/91
PROJECT #	: 101491	DATE RECEIVED	: 10/15/91
PROJECT NAME	: RAIL SPUR	DATE EXTRACTED	: 10/18/91
CLIENT I.D.	: CI-11-2	DATE ANALYZED	: 10/26/91
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
ALDRIN	<0.005
ALPHA - BHC	<0.005
BETA - BHC	0.005
GAMMA - BHC	<0.005
DELTA - BHC	<0.005
ALPHA-CHLORDANE	<0.05
GAMMA-CHLORDANE	<0.05
4,4'-DDD	<0.01
4,4'-DDE	0.09
4,4'-DDT	0.04
DIELDRIN	0.01
ENDOSULFAN I	<0.01
ENDOSULFAN II	<0.01
ENDOSULFAN SULFATE	<0.01
ENDRIN	<0.01
ENDRIN KETONE	<0.01
HEPTACHLOR	<0.005
HEPTACHLOR EPOXIDE	<0.005
METHOXYCHLOR	<0.05
TOXAPHENE	0.3
AROCLOR 1016	<0.025
AROCLOR 1221	<0.025
AROCLOR 1232	<0.025
AROCLOR 1242	<0.025
AROCLOR 1248	<0.025
AROCLOR 1254	<0.025
AROCLOR 1260	<0.025
SURROGATE PERCENT RECOVERIES	
DBC (%)	115

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 11070414

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	DATE SAMPLED	: 10/14/91
PROJECT #	: 101491	DATE RECEIVED	: 10/15/91
PROJECT NAME	: RAIL SPUR	DATE EXTRACTED	: 10/18/91
CLIENT I.D.	: CI-11-3	DATE ANALYZED	: 10/27/91
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
ALDRIN	<0.005
ALPHA - BHC	<0.005
BETA - BHC	0.005
GAMMA - BHC	<0.005
DELTA - BHC	<0.005
ALPHA-CHLORDANE	<0.05
GAMMA-CHLORDANE	<0.05
4,4'-DDD	<0.01
4,4'-DDE	0.05
4,4'-DDT	0.03
DIELDRIN	0.01
ENDOSULFAN I	<0.01
ENDOSULFAN II	<0.01
ENDOSULFAN SULFATE	<0.01
ENDRIN	<0.01
ENDRIN KETONE	<0.01
HEPTACHLOR	<0.005
HEPTACHLOR EPOXIDE	<0.005
METHOXYCHLOR	<0.05
TOXAPHENE	0.2
AROCLOR 1016	<0.025
AROCLOR 1221	<0.025
AROCLOR 1232	<0.025
AROCLOR 1242	<0.025
AROCLOR 1248	<0.025
AROCLOR 1254	<0.025
AROCLOR 1260	<0.025
SURROGATE PERCENT RECOVERIES	
DBC (%)	100

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 11070415

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	DATE SAMPLED	: 10/14/91
PROJECT #	: 101491	DATE RECEIVED	: 10/15/91
PROJECT NAME	: RAIL SPUR	DATE EXTRACTED	: 10/18/91
CLIENT I.D.	: CI-11-4	DATE ANALYZED	: 10/27/91
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
ALDRIN	<0.005
ALPHA - BHC	<0.005
BETA - BHC	0.01
GAMMA - BHC	<0.005
DELTA - BHC	<0.005
ALPHA-CHLORDANE	<0.05
GAMMA-CHLORDANE	<0.05
4,4'-DDD	<0.01
4,4'-DDE	0.16
4,4'-DDT	0.05
DIELDRIN	0.02
ENDOSULFAN I	<0.01
ENDOSULFAN II	<0.01
ENDOSULFAN SULFATE	<0.01
ENDRIN	<0.01
ENDRIN KETONE	<0.01
HEPTACHLOR	<0.005
HEPTACHLOR EPOXIDE	<0.005
METHOXYCHLOR	<0.05
TOXAPHENE	0.4
AROCLOR 1016	<0.025
AROCLOR 1221	<0.025
AROCLOR 1232	<0.025
AROCLOR 1242	<0.025
AROCLOR 1248	<0.025
AROCLOR 1254	<0.025
AROCLOR 1260	<0.025

SURROGATE PERCENT RECOVERIES

DBC (%)	103

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 11070416

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	DATE SAMPLED	: 10/14/91
PROJECT #	: 101491	DATE RECEIVED	: 10/15/91
PROJECT NAME	: RAIL SPUR	DATE EXTRACTED	: 10/18/91
CLIENT I.D.	: CI-12-1	DATE ANALYZED	: 10/28/91
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 50

COMPOUNDS	RESULTS
ALDRIN	<0.250
ALPHA - BHC	<0.250
BETA - BHC	2.0
GAMMA - BHC	<0.250
DELTA - BHC	<0.250
ALPHA-CHLORDANE	<2.5
GAMMA-CHLORDANE	<2.5
4,4'-DDD	0.8
4,4'-DDE	16
4,4'-DDT	7.4
DIELDRIN	1.0
ENDOSULFAN I	<0.5
ENDOSULFAN II	<0.5
ENDOSULFAN SULFATE	<0.5
ENDRIN	<0.5
ENDRIN KETONE	<0.5
HEPTACHLOR	<0.250
HEPTACHLOR EPOXIDE	<0.250
METHOXYCHLOR	<2.5
TOXAPHENE	12
AROCLOR 1016	<1.250
AROCLOR 1221	<1.250
AROCLOR 1232	<1.250
AROCLOR 1242	<1.250
AROCLOR 1248	<1.250
AROCLOR 1254	<1.250
AROCLOR 1260	<1.250

SURROGATE PERCENT RECOVERIES

DBC (%)	**

** Due to the necessary dilution of the sample, result was not attainable

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 11070417

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	DATE SAMPLED	: 10/14/91
PROJECT #	: 101491	DATE RECEIVED	: 10/15/91
PROJECT NAME	: RAIL SPUR	DATE EXTRACTED	: 10/18/91
CLIENT I.D.	: CI-12-2	DATE ANALYZED	: 10/27/91
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 5

COMPOUNDS	RESULTS
ALDRIN	<0.025
ALPHA - BHC	<0.025
BETA - BHC	0.20
GAMMA - BHC	<0.025
DELTA - BHC	<0.025
ALPHA-CHLORDANE	<0.25
GAMMA-CHLORDANE	<0.25
4,4'-DDD	0.06
4,4'-DDE	1.1
4,4'-DDT	0.6
DIELDRIN	0.06
ENDOSULFAN I	<0.05
ENDOSULFAN II	<0.05
ENDOSULFAN SULFATE	<0.05
ENDRIN	<0.05
ENDRIN KETONE	<0.05
HEPTACHLOR	<0.025
HEPTACHLOR EPOXIDE	<0.025
METHOXYCHLOR	<0.25
TOXAPHENE	0.8
AROCLOR 1016	<0.125
AROCLOR 1221	<0.125
AROCLOR 1232	<0.125
AROCLOR 1242	<0.125
AROCLOR 1248	<0.125
AROCLOR 1254	<0.125
AROCLOR 1260	<0.125
SURROGATE PERCENT RECOVERIES	
DBC (%)	114

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 11070418

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	DATE SAMPLED	: 10/14/91
PROJECT #	: 101491	DATE RECEIVED	: 10/15/91
PROJECT NAME	: RAIL SPUR	DATE EXTRACTED	: 10/18/91
CLIENT I.D.	: CI-12-3	DATE ANALYZED	: 10/27/91
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
ALDRIN	<0.005
ALPHA - BHC	<0.005
BETA - BHC	0.01
GAMMA - BHC	<0.005
DELTA - BHC	<0.005
ALPHA-CHLORDANE	<0.05
GAMMA-CHLORDANE	<0.05
4,4'-DDD	<0.01
4,4'-DDE	0.1
4,4'-DDT	0.06
DIELDRIN	<0.01
ENDOSULFAN I	<0.01
ENDOSULFAN II	<0.01
ENDOSULFAN SULFATE	<0.01
ENDRIN	<0.01
ENDRIN KETONE	<0.01
HEPTACHLOR	<0.005
HEPTACHLOR EPOXIDE	<0.005
METHOXYCHLOR	<0.05
TOXAPHENE	<0.1
AROCLOR 1016	<0.025
AROCLOR 1221	<0.025
AROCLOR 1232	<0.025
AROCLOR 1242	<0.025
AROCLOR 1248	<0.025
AROCLOR 1254	<0.025
AROCLOR 1260	<0.025

SURROGATE PERCENT RECOVERIES

DBC (%)	103

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 11070419

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	DATE SAMPLED	: 10/14/91
PROJECT #	: 101491	DATE RECEIVED	: 10/15/91
PROJECT NAME	: RAIL SPUR	DATE EXTRACTED	: 10/18/91
CLIENT I.D.	: CI-13-1	DATE ANALYZED	: 10/27/91
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 250

COMPOUNDS	RESULTS
ALDRIN	<1.25
ALPHA - BHC	<1.25
BETA - BHC	<1.25
GAMMA - BHC	<1.25
DELTA - BHC	<1.25
ALPHA-CHLORDANE	<12.5
GAMMA-CHLORDANE	<12.5
4,4'-DDD	<2.5
4,4'-DDE	<2.5
4,4'-DDT	2.8
DIELDRIN	<2.5
ENDOSULFAN I	<2.5
ENDOSULFAN II	<2.5
ENDOSULFAN SULFATE	<2.5
ENDRIN	<2.5
ENDRIN KETONE	<2.5
HEPTACHLOR	<1.25
HEPTACHLOR EPOXIDE	<1.25
METHOXYCHLOR	<12.5
TOXAPHENE	<25
AROCLOR 1016	<6.25
AROCLOR 1221	<6.25
AROCLOR 1232	<6.25
AROCLOR 1242	<6.25
AROCLOR 1248	<6.25
AROCLOR 1254	<6.25
AROCLOR 1260	<6.25

SURROGATE PERCENT RECOVERIES

DBC (%)	**

** Due to the necessary dilution of the sample, result was not attainable

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 11070420

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	DATE SAMPLED	: 10/14/91
PROJECT #	: 101491	DATE RECEIVED	: 10/15/91
PROJECT NAME	: RAIL SPUR	DATE EXTRACTED	: 10/18/91
CLIENT I.D.	: CI-13-2	DATE ANALYZED	: 10/28/91
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 5

COMPOUNDS	RESULTS
ALDRIN	<0.025
ALPHA - BHC	<0.025
BETA - BHC	<0.025
GAMMA - BHC	<0.025
DELTA - BHC	<0.025
ALPHA-CHLORDANE	<0.25
GAMMA-CHLORDANE	<0.25
4,4'-DDD	<0.05
4,4'-DDE	0.05
4,4'-DDT	0.09
DIELDRIN	<0.05
ENDOSULFAN I	<0.05
ENDOSULFAN II	<0.05
ENDOSULFAN SULFATE	<0.05
ENDRIN	<0.05
ENDRIN KETONE	<0.05
HEPTACHLOR	<0.025
HEPTACHLOR EPOXIDE	<0.025
METHOXYCHLOR	<0.25
TOXAPHENE	<0.5
AROCLOR 1016	<0.125
AROCLOR 1221	<0.125
AROCLOR 1232	<0.125
AROCLOR 1242	<0.125
AROCLOR 1248	<0.125
AROCLOR 1254	<0.125
AROCLOR 1260	<0.125

SURROGATE PERCENT RECOVERIES

DBC (%)	114

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 11070421

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	DATE SAMPLED	: 10/14/91
PROJECT #	: 101491	DATE RECEIVED	: 10/15/91
PROJECT NAME	: RAIL SPUR	DATE EXTRACTED	: 10/18/91
CLIENT I.D.	: CI-13-3	DATE ANALYZED	: 10/27/91
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
ALDRIN	<0.005
ALPHA - BHC	<0.005
BETA - BHC	<0.005
GAMMA - BHC	<0.005
DELTA - BHC	<0.005
ALPHA-CHLORDANE	<0.05
GAMMA-CHLORDANE	<0.05
4,4'-DDD	<0.01
4,4'-DDE	<0.01
4,4'-DDT	<0.01
DIELDRIN	<0.01
ENDOSULFAN I	<0.01
ENDOSULFAN II	<0.01
ENDOSULFAN SULFATE	<0.01
ENDRIN	<0.01
ENDRIN KETONE	<0.01
HEPTACHLOR	<0.005
HEPTACHLOR EPOXIDE	<0.005
METHOXYCHLOR	<0.05
TOXAPHENE	<0.1
AROCLOR 1016	<0.025
AROCLOR 1221	<0.025
AROCLOR 1232	<0.025
AROCLOR 1242	<0.025
AROCLOR 1248	<0.025
AROCLOR 1254	<0.025
AROCLOR 1260	<0.025
SURROGATE PERCENT RECOVERIES	
DBC (%)	96

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 11070422

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	DATE SAMPLED	: 10/14/91
PROJECT #	: 101491	DATE RECEIVED	: 10/15/91
PROJECT NAME	: RAIL SPUR	DATE EXTRACTED	: 10/18/91
CLIENT I.D.	: CI-14-1	DATE ANALYZED	: 10/28/91
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 10

COMPOUNDS	RESULTS
ALDRIN	<0.050
ALPHA - BHC	<0.050
BETA - BHC	0.10
GAMMA - BHC	<0.050
DELTA - BHC	<0.050
ALPHA-CHLORDANE	<0.5
GAMMA-CHLORDANE	<0.5
4,4'-DDD	0.2
4,4'-DDE	0.7
4,4'-DDT	0.5
DIELDRIN	0.3
ENDOSULFAN I	<0.1
ENDOSULFAN II	<0.1
ENDOSULFAN SULFATE	<0.1
ENDRIN	<0.1
ENDRIN KETONE	<0.1
HEPTACHLOR	<0.050
HEPTACHLOR EPOXIDE	<0.050
METHOXYCHLOR	<0.5
TOXAPHENE	4.0
AROCLOR 1016	<0.250
AROCLOR 1221	<0.250
AROCLOR 1232	<0.250
AROCLOR 1242	<0.250
AROCLOR 1248	<0.250
AROCLOR 1254	<0.250
AROCLOR 1260	<0.250

SURROGATE PERCENT RECOVERIES

DBC (%)	128

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 11070423

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	DATE SAMPLED	: 10/14/91
PROJECT #	: 101491	DATE RECEIVED	: 10/15/91
PROJECT NAME	: RAIL SPUR	DATE EXTRACTED	: 10/18/91
CLIENT I.D.	: CI-14-2	DATE ANALYZED	: 10/28/91
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 10

COMPOUNDS	RESULTS
ALDRIN	<0.050
ALPHA - BHC	<0.050
BETA - BHC	0.05
GAMMA - BHC	<0.050
DELTA - BHC	<0.050
ALPHA-CHLORDANE	<0.5
GAMMA-CHLORDANE	<0.5
4,4'-DDD	0.1
4,4'-DDE	0.4
4,4'-DDT	0.4
DIELDRIN	0.1
ENDOSULFAN I	<0.1
ENDOSULFAN II	<0.1
ENDOSULFAN SULFATE	<0.1
ENDRIN	<0.1
ENDRIN KETONE	<0.1
HEPTACHLOR	<0.050
HEPTACHLOR EPOXIDE	<0.050
METHOXYCHLOR	<0.5
TOXAPHENE	3
AROCLOR 1016	<0.250
AROCLOR 1221	<0.250
AROCLOR 1232	<0.250
AROCLOR 1242	<0.250
AROCLOR 1248	<0.250
AROCLOR 1254	<0.250
AROCLOR 1260	<0.250
SURROGATE PERCENT RECOVERIES	
DBC (%)	131

Analytical Technologies, Inc

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 11070424

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	DATE SAMPLED	: 10/14/91
PROJECT #	: 101491	DATE RECEIVED	: 10/15/91
PROJECT NAME	: RAIL SPUR	DATE EXTRACTED	: 10/18/91
CLIENT I.D.	: CI-14-3	DATE ANALYZED	: 10/27/91
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
ALDRIN	<0.005
ALPHA - BHC	<0.005
BETA - BHC	<0.005
GAMMA - BHC	<0.005
DELTA - BHC	<0.005
ALPHA-CHLORDANE	<0.05
GAMMA-CHLORDANE	<0.05
4,4'-DDD	<0.01
4,4'-DDE	<0.01
4,4'-DDT	0.02
DIELDRIN	<0.01
ENDOSULFAN I	<0.01
ENDOSULFAN II	<0.01
ENDOSULFAN SULFATE	<0.01
ENDRIN	<0.01
ENDRIN KETONE	<0.01
HEPTACHLOR	<0.005
HEPTACHLOR EPOXIDE	<0.005
METHOXYCHLOR	<0.05
TOXAPHENE	<0.1
AROCLOR 1016	<0.025
AROCLOR 1221	<0.025
AROCLOR 1232	<0.025
AROCLOR 1242	<0.025
AROCLOR 1248	<0.025
AROCLOR 1254	<0.025
AROCLOR 1260	<0.025
SURROGATE PERCENT RECOVERIES	
DBC (%)	89

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 11070425

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	DATE SAMPLED	: 10/14/91
PROJECT #	: 101491	DATE RECEIVED	: 10/15/91
PROJECT NAME	: RAIL SPUR	DATE EXTRACTED	: 10/18/91
CLIENT I.D.	: CI-15-1	DATE ANALYZED	: 10/28/91
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1000

COMPOUNDS	RESULTS
ALDRIN	<5.0
ALPHA - BHC	<5.0
BETA - BHC	<5.0
GAMMA - BHC	<5.0
DELTA - BHC	<5.0
ALPHA-CHLORDANE	<50
GAMMA-CHLORDANE	<50
4,4'-DDD	10
4,4'-DDE	40
4,4'-DDT	140
DIELDRIN	60
ENDOSULFAN I	<10
ENDOSULFAN II	<10
ENDOSULFAN SULFATE	<10
ENDRIN	<10
ENDRIN KETONE	<10
HEPTACHLOR	<5.0
HEPTACHLOR EPOXIDE	<5.0
METHOXYCHLOR	<50
TOXAPHENE	200
AROCLOR 1016	<25.0
AROCLOR 1221	<25.0
AROCLOR 1232	<25.0
AROCLOR 1242	<25.0
AROCLOR 1248	<25.0
AROCLOR 1254	<25.0
AROCLOR 1260	<25.0

SURROGATE PERCENT RECOVERIES

DBC (%)	**

** Due to the necessary dilution of the sample, result was not attainable

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 11070426

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	DATE SAMPLED	: 10/14/91
PROJECT #	: 101491	DATE RECEIVED	: 10/15/91
PROJECT NAME	: RAIL SPUR	DATE EXTRACTED	: 10/23/91
CLIENT I.D.	: CI-15-2	DATE ANALYZED	: 10/30/91
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 5

COMPOUNDS	RESULTS
ALDRIN	<0.025
ALPHA - BHC	<0.025
BETA - BHC	<0.025
GAMMA - BHC	<0.025
DELTA - BHC	<0.025
ALPHA-CHLORDANE	<0.25
GAMMA-CHLORDANE	<0.25
4,4'-DDD	0.07
4,4'-DDE	0.26
4,4'-DDT	0.67
DIELDRIN	0.24
ENDOSULFAN I	<0.05
ENDOSULFAN II	<0.05
ENDOSULFAN SULFATE	<0.05
ENDRIN	<0.05
ENDRIN KETONE	<0.05
HEPTACHLOR	<0.025
HEPTACHLOR EPOXIDE	<0.025
METHOXYCHLOR	<0.25
TOXAPHENE	1.2
AROCLOR 1016	<0.125
AROCLOR 1221	<0.125
AROCLOR 1232	<0.125
AROCLOR 1242	<0.125
AROCLOR 1248	<0.125
AROCLOR 1254	<0.125
AROCLOR 1260	<0.125

SURROGATE PERCENT RECOVERIES

DBC (%)	123

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 11070427

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	DATE SAMPLED	: 10/14/91
PROJECT #	: 101491	DATE RECEIVED	: 10/15/91
PROJECT NAME	: RAIL SPUR	DATE EXTRACTED	: 10/23/91
CLIENT I.D.	: CI-15-3	DATE ANALYZED	: 10/30/91
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
ALDRIN	<0.005
ALPHA - BHC	<0.005
BETA - BHC	<0.005
GAMMA - BHC	<0.005
DELTA - BHC	<0.005
ALPHA-CHLORDANE	<0.05
GAMMA-CHLORDANE	<0.05
4,4'-DDD	<0.01
4,4'-DDE	0.01
4,4'-DDT	0.04
DIELDRIN	0.01
ENDOSULFAN I	<0.01
ENDOSULFAN II	<0.01
ENDOSULFAN SULFATE	<0.01
ENDRIN	<0.01
ENDRIN KETONE	<0.01
HEPTACHLOR	<0.005
HEPTACHLOR EPOXIDE	<0.005
METHOXYCHLOR	<0.05
TOXAPHENE	<0.1
AROCLOR 1016	<0.025
AROCLOR 1221	<0.025
AROCLOR 1232	<0.025
AROCLOR 1242	<0.025
AROCLOR 1248	<0.025
AROCLOR 1254	<0.025
AROCLOR 1260	<0.025
SURROGATE PERCENT RECOVERIES	
DBC (%)	93

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 11070428

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	DATE SAMPLED	: 10/14/91
PROJECT #	: 101491	DATE RECEIVED	: 10/15/91
PROJECT NAME	: RAIL SPUR	DATE EXTRACTED	: 10/23/91
CLIENT I.D.	: CI-16-1	DATE ANALYZED	: 10/29/91
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 100

COMPOUNDS	RESULTS
ALDRIN	<0.50
ALPHA - BHC	<0.50
BETA - BHC	0.5
GAMMA - BHC	<0.50
DELTA - BHC	<0.50
ALPHA-CHLORDANE	<5.0
GAMMA-CHLORDANE	<5.0
4,4'-DDD	<1.0
4,4'-DDE	7
4,4'-DDT	3
DIELDRIN	1
ENDOSULFAN I	<1.0
ENDOSULFAN II	<1.0
ENDOSULFAN SULFATE	<1.0
ENDRIN	<1.0
ENDRIN KETONE	<1.0
HEPTACHLOR	<0.50
HEPTACHLOR EPOXIDE	<0.50
METHOXYCHLOR	<5.0
TOXAPHENE	16
AROCLOR 1016	<2.50
AROCLOR 1221	<2.50
AROCLOR 1232	<2.50
AROCLOR 1242	<2.50
AROCLOR 1248	<2.50
AROCLOR 1254	<2.50
AROCLOR 1260	<2.50

SURROGATE PERCENT RECOVERIES

DBC (%)	**

** Due to the necessary dilution of the sample, result was not attainable

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 11070429

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	DATE SAMPLED	: 10/14/91
PROJECT #	: 101491	DATE RECEIVED	: 10/15/91
PROJECT NAME	: RAIL SPUR	DATE EXTRACTED	: 10/23/91
CLIENT I.D.	: CI-16-2	DATE ANALYZED	: 10/30/91
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 50

COMPOUNDS	RESULTS
ALDRIN	<0.250
ALPHA - BHC	<0.250
BETA - BHC	0.50
GAMMA - BHC	<0.250
DELTA - BHC	<0.250
ALPHA-CHLORDANE	<2.5
GAMMA-CHLORDANE	<2.5
4,4'-DDD	0.5
4,4'-DDE	2.2
4,4'-DDT	2.2
DIELDRIN	0.6
ENDOSULFAN I	<0.5
ENDOSULFAN II	<0.5
ENDOSULFAN SULFATE	<0.5
ENDRIN	<0.5
ENDRIN KETONE	<0.5
HEPTACHLOR	<0.250
HEPTACHLOR EPOXIDE	<0.250
METHOXYCHLOR	<2.5
TOXAPHENE	16
AROCLOR 1016	<1.250
AROCLOR 1221	<1.250
AROCLOR 1232	<1.250
AROCLOR 1242	<1.250
AROCLOR 1248	<1.250
AROCLOR 1254	<1.250
AROCLOR 1260	<1.250

SURROGATE PERCENT RECOVERIES

DBC (%)	**

** Due to the necessary dilution of the sample, result was not attainable

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 11070430

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	DATE SAMPLED	: 10/14/91
PROJECT #	: 101491	DATE RECEIVED	: 10/15/91
PROJECT NAME	: RAIL SPUR	DATE EXTRACTED	: 10/23/91
CLIENT I.D.	: CI-16-3	DATE ANALYZED	: 10/30/91
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 5

COMPOUNDS	RESULTS
ALDRIN	<0.025
ALPHA - BHC	<0.025
BETA - BHC	0.025
GAMMA - BHC	<0.025
DELTA - BHC	<0.025
ALPHA-CHLORDANE	<0.25
GAMMA-CHLORDANE	<0.25
4,4'-DDD	<0.05
4,4'-DDE	0.21
4,4'-DDT	0.07
DIELDRIN	0.05
ENDOSULFAN I	<0.05
ENDOSULFAN II	<0.05
ENDOSULFAN SULFATE	<0.05
ENDRIN	<0.05
ENDRIN KETONE	<0.05
HEPTACHLOR	<0.025
HEPTACHLOR EPOXIDE	<0.025
METHOXYCHLOR	<0.25
TOXAPHENE	1.1
AROCLOR 1016	<0.125
AROCLOR 1221	<0.125
AROCLOR 1232	<0.125
AROCLOR 1242	<0.125
AROCLOR 1248	<0.125
AROCLOR 1254	<0.125
AROCLOR 1260	<0.125

SURROGATE PERCENT RECOVERIES

DBC (%)	103

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 11070431

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	DATE SAMPLED	: 10/14/91
PROJECT #	: 101491	DATE RECEIVED	: 10/15/91
PROJECT NAME	: RAIL SPUR	DATE EXTRACTED	: 10/23/91
CLIENT I.D.	: CI-16-4	DATE ANALYZED	: 10/30/91
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
ALDRIN	<0.005
ALPHA - BHC	<0.005
BETA - BHC	<0.005
GAMMA - BHC	<0.005
DELTA - BHC	<0.005
ALPHA-CHLORDANE	<0.05
GAMMA-CHLORDANE	<0.05
4,4'-DDD	<0.01
4,4'-DDE	<0.01
4,4'-DDT	<0.01
DIELDRIN	<0.01
ENDOSULFAN I	<0.01
ENDOSULFAN II	<0.01
ENDOSULFAN SULFATE	<0.01
ENDRIN	<0.01
ENDRIN KETONE	<0.01
HEPTACHLOR	<0.005
HEPTACHLOR EPOXIDE	<0.005
METHOXYCHLOR	<0.05
TOXAPHENE	<0.1
AROCLOR 1016	<0.025
AROCLOR 1221	<0.025
AROCLOR 1232	<0.025
AROCLOR 1242	<0.025
AROCLOR 1248	<0.025
AROCLOR 1254	<0.025
AROCLOR 1260	<0.025
SURROGATE PERCENT RECOVERIES	
DBC (%)	70

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 11070432

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	DATE SAMPLED	: 10/14/91
PROJECT #	: 101491	DATE RECEIVED	: 10/15/91
PROJECT NAME	: RAIL SPUR	DATE EXTRACTED	: 10/23/91
CLIENT I.D.	: CI-17-1	DATE ANALYZED	: 10/30/91
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 2000

COMPOUNDS	RESULTS
ALDRIN	<10.0
ALPHA - BHC	<10.0
BETA - BHC	<10.0
GAMMA - BHC	<10.0
DELTA - BHC	<10.0
ALPHA-CHLORDANE	<100
GAMMA-CHLORDANE	<100
4,4'-DDD	20
4,4'-DDE	30
4,4'-DDT	120
DIELDRIN	<20
ENDOSULFAN I	<20
ENDOSULFAN II	<20
ENDOSULFAN SULFATE	<20
ENDRIN	<20
ENDRIN KETONE	<20
HEPTACHLOR	<10.0
HEPTACHLOR EPOXIDE	<10.0
METHOXYCHLOR	<100
TOXAPHENE	280
AROCLOR 1016	<50.0
AROCLOR 1221	<50.0
AROCLOR 1232	<50.0
AROCLOR 1242	<50.0
AROCLOR 1248	<50.0
AROCLOR 1254	<50.0
AROCLOR 1260	<50.0

SURROGATE PERCENT RECOVERIES

DBC (%)	**

** Due to the necessary dilution of the sample, result was not attainable

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 11070433

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	DATE SAMPLED	: 10/14/91
PROJECT #	: 101491	DATE RECEIVED	: 10/15/91
PROJECT NAME	: RAIL SPUR	DATE EXTRACTED	: 10/23/91
CLIENT I.D.	: CI-18-1	DATE ANALYZED	: 10/30/91
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 20

COMPOUNDS	RESULTS
ALDRIN	<0.100
ALPHA - BHC	<0.100
BETA - BHC	<0.100
GAMMA - BHC	<0.100
DELTA - BHC	<0.100
ALPHA-CHLORDANE	<1.0
GAMMA-CHLORDANE	<1.0
4,4'-DDD	<0.2
4,4'-DDE	0.3
4,4'-DDT	0.3
DIELDRIN	<0.2
ENDOSULFAN I	<0.2
ENDOSULFAN II	<0.2
ENDOSULFAN SULFATE	<0.2
ENDRIN	0.2
ENDRIN KETONE	<0.2
HEPTACHLOR	<0.100
HEPTACHLOR EPOXIDE	<0.100
METHOXYCHLOR	<1.0
TOXAPHENE	<2.0
AROCLOR 1016	<0.500
AROCLOR 1221	<0.500
AROCLOR 1232	<0.500
AROCLOR 1242	<0.500
AROCLOR 1248	<0.500
AROCLOR 1254	<0.500
AROCLOR 1260	<0.500

SURROGATE PERCENT RECOVERIES

DBC (%)	**

** Due to the necessary dilution of the sample, result was not attainable

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

REAGENT BLANK

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	ATI I.D.	: 110704
PROJECT #	: 101491	DATE EXTRACTED	: 10/16/91
PROJECT NAME	: RAIL SPUR	DATE ANALYZED	: 10/21/91
CLIENT I.D.	: REAGENT BLANK	UNITS	: MG/KG
		DILUTION FACTOR	: N/A

COMPOUNDS	RESULTS
ALDRIN	<0.005
ALPHA - BHC	<0.005
BETA - BHC	<0.005
GAMMA - BHC	<0.005
DELTA - BHC	<0.005
ALPHA-CHLORDANE	<0.05
GAMMA-CHLORDANE	<0.05
4,4'-DDD	<0.01
4,4'-DDE	<0.01
4,4'-DDT	<0.01
DIELDRIN	<0.01
ENDOSULFAN I	<0.01
ENDOSULFAN II	<0.01
ENDOSULFAN SULFATE	<0.01
ENDRIN	<0.01
ENDRIN KETONE	<0.01
HEPTACHLOR	<0.005
HEPTACHLOR EPOXIDE	<0.005
METHOXYCHLOR	<0.05
TOXAPHENE	<0.1
AROCLOR 1016	<0.025
AROCLOR 1221	<0.025
AROCLOR 1232	<0.025
AROCLOR 1242	<0.025
AROCLOR 1248	<0.025
AROCLOR 1254	<0.025
AROCLOR 1260	<0.025

SURROGATE PERCENT RECOVERIES

DBC (%)	100

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

REAGENT BLANK

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	ATI I.D.	: 110704
PROJECT #	: 101491	DATE EXTRACTED	: 10/18/91
PROJECT NAME	: RAIL SPUR	DATE ANALYZED	: 10/23/91
CLIENT I.D.	: REAGENT BLANK	UNITS	: MG/KG
		DILUTION FACTOR	: N/A

COMPOUNDS	RESULTS
ALDRIN	<0.005
ALPHA - BHC	<0.005
BETA - BHC	<0.005
GAMMA - BHC	<0.005
DELTA - BHC	<0.005
ALPHA-CHLORDANE	<0.05
GAMMA-CHLORDANE	<0.05
4,4'-DDD	<0.01
4,4'-DDE	<0.01
4,4'-DDT	<0.01
DIELDRIN	<0.01
ENDOSULFAN I	<0.01
ENDOSULFAN II	<0.01
ENDOSULFAN SULFATE	<0.01
ENDRIN	<0.01
ENDRIN KETONE	<0.01
HEPTACHLOR	<0.005
HEPTACHLOR EPOXIDE	<0.005
METHOXYCHLOR	<0.05
TOXAPHENE	<0.1
AROCLOR 1016	<0.025
AROCLOR 1221	<0.025
AROCLOR 1232	<0.025
AROCLOR 1242	<0.025
AROCLOR 1248	<0.025
AROCLOR 1254	<0.025
AROCLOR 1260	<0.025

SURROGATE PERCENT RECOVERIES

DBC (%)	103

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

REAGENT BLANK

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	ATI I.D.	: 110704
PROJECT #	: 101491	DATE EXTRACTED	: 10/23/91
PROJECT NAME	: RAIL SPUR	DATE ANALYZED	: 10/28/91
CLIENT I.D.	: REAGENT BLANK	UNITS	: MG/KG
		DILUTION FACTOR	: N/A

COMPOUNDS	RESULTS
ALDRIN	<0.005
ALPHA - BHC	<0.005
BETA - BHC	<0.005
GAMMA - BHC	<0.005
DELTA - BHC	<0.005
ALPHA-CHLORDANE	<0.05
GAMMA-CHLORDANE	<0.05
4,4'-DDD	<0.01
4,4'-DDE	<0.01
4,4'-DDT	<0.01
DIELDRIN	<0.01
ENDOSULFAN I	<0.01
ENDOSULFAN II	<0.01
ENDOSULFAN SULFATE	<0.01
ENDRIN	<0.01
ENDRIN KETONE	<0.01
HEPTACHLOR	<0.005
HEPTACHLOR EPOXIDE	<0.005
METHOXYCHLOR	<0.05
TOXAPHENE	<0.1
AROCLOR 1016	<0.025
AROCLOR 1221	<0.025
AROCLOR 1232	<0.025
AROCLOR 1242	<0.025
AROCLOR 1248	<0.025
AROCLOR 1254	<0.025
AROCLOR 1260	<0.025

SURROGATE PERCENT RECOVERIES

DBC (%)	90

Analytical Technologies, Inc.

QUALITY CONTROL DATA

ATI I.D. : 110704

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT : CHEMONICS INDUSTRIES
PROJECT # : 101491
PROJECT NAME : RAIL SPUR
REF I.D. : 11099924

DATE ANALYZED : 10/21/91
SAMPLE MATRIX :
UNITS : MG/KG

COMPOUNDS	SAMPLE RESULT	CONC. SPIKED	SPIKED SAMPLE	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
GAMMA BHC	<0.005	0.067	0.065	97	0.060	90	8
HEPTACHLOR	<0.005	0.067	0.068	101	0.059	88	14
ALDRIN	<0.005	0.067	0.067	100	0.060	90	11
DIELDRIN	<0.01	0.07	0.07	100	0.07	100	0
ENDRIN	<0.01	0.07	0.07	100	0.07	100	0
DDT	<0.01	0.07	0.07	100	0.07	100	0

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Spiked Sample Result} - \text{Duplicate Spike Sample Result})}{\text{Average of Spiked Sample}} \times 100$$

Analytical Technologies, Inc.

QUALITY CONTROL DATA

ATI I.D. : 110704

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT : CHEMONICS INDUSTRIES
PROJECT # : 101491 DATE ANALYZED : 10/23/91
PROJECT NAME : RAIL SPUR SAMPLE MATRIX :
REF I.D. : 11099938 UNITS : MG/KG

COMPOUNDS	SAMPLE RESULT	CONC. SPIKED	SPIKED SAMPLE	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
GAMMA BHC	<0.005	0.067	0.058	86	0.059	88	2
HEPTACHLOR	<0.005	0.067	0.058	86	0.060	90	3
ALDRIN	<0.005	0.067	0.057	85	0.059	88	3
DIELDRIN	<0.01	0.07	0.06	86	0.06	86	0
ENDRIN	<0.01	0.07	0.06	86	0.06	86	0
DDT	<0.01	0.07	0.06	86	0.07	100	15

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Spiked Sample Result} - \text{Duplicate Spike Sample Result})}{\text{Average of Spiked Sample}} \times 100$$

Analytical Technologies, Inc.

QUALITY CONTROL DATA

ATI I.D. : 110704

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT : CHEMONICS INDUSTRIES
PROJECT # : 101491
PROJECT NAME : RAIL SPUR
REF I.D. : 11199914

DATE ANALYZED : 10/28/91
SAMPLE MATRIX : NON-AQUEOUS
UNITS : MG/KG

COMPOUNDS	SAMPLE RESULT	CONC. SPIKED	SPIKED SAMPLE	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
GAMMA BHC	<0.005	0.067	0.056	84	0.053	79	6
HEPTACHLOR	<0.005	0.067	0.058	87	0.054	81	7
ALDRIN	<0.005	0.067	0.058	87	0.054	81	7
DIELDRIN	<0.01	0.07	0.06	86	0.06	86	0
ENDRIN	<0.01	0.07	0.06	86	0.06	86	0
DDT	<0.01	0.07	0.06	86	0.06	86	0

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Spiked Sample Result} - \text{Duplicate Spike Sample Result})}{\text{Average of Spiked Sample}} \times 100$$

Analytica Technologies, Inc.
Phoenix, Arizona

Chain of Custody

DATE 10/14/91 PAGE 1 OF 4

PROJECT MANAGER: LLOYD ADERHOLD

COMPANY: CHEMONICS INDUSTRIES, INC.
ADDRESS: 734 E. SOUTHERN PACIFIC DR
PHOENIX, AZ. 85034

BILL TO:
COMPANY: SAME
ADDRESS:

C. Lloyd Aderhold — SAMPLERS: (Signature)
(602) 262-5401 — PHONE NUMBER

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Pesticides/PCB (608/8080)	NUMBER OF CONTAINERS
CI-1-4	10/14/91	9:55AM	SOIL	1	X	1
CI-8-1	10/14/91	10:35AM	SOIL	2	X	1
CI-8-2	10/14/91	11:10AM	SOIL	3	X	1
CI-8-3	10/14/91	1:10PM	SOIL	4	X	1
CI-9-1	10/14/91	1:45PM	SOIL	5	X	1
CI-9-2	10/14/91	2:00PM	SOIL	6	X	1
CI-9-3	10/14/91	2:10PM	SOIL	7	X	1
CI-9-4	10/14/91	2:30PM	SOIL	8	X	1
CI-10-1	10/14/91	2:30PM	SOIL	9	X	1

ANALYSIS REQUEST

Petroleum Hydrocarbons (418.1)
(MOD 8015) Gas/Diesel
Diesel/Gasoline/BTXE (MOD 8015/8020)
BTXE (8020)
Chlorinated Hydrocarbons (601/8010)
Aromatic Hydrocarbons (602/8020)
MTBE
Pesticides/PCB (608/8080)
Herbicides (615/8150)
Base/Neutral/Acid Compounds GC/MS (625/8270)
Volatile Organics GC/MS (624/8240)
SDWA Primary Standards
SDWA Secondary Standards
SDWA Volatiles (502.1/503.1)
The 13 Priority Pollutant Metals
The 8 EP Tox Metals by EP Tox Prep. (1310)
The 8 EP Tox Metals by Total Digestion
The 8 EP Tox Metals by TCLP (1311)

PROJECT INFORMATION		SAMPLE RECEIPT	
PROJECT NO:	10149	TOTAL NO. OF CONTAINERS	9
PROJECT NAME:	RAIL SPUR	CHAIN OF CUSTODY SEALS	Y
P.O. NO.	1881	INTACT?	Y
SHIPPED VIA:		RECEIVED GOOD COND./COLD	Y
SAMPLE DISPOSAL INSTRUCTIONS		LAB NUMBER	110704
☒ ATI ☐ RETURN			

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

TAT: (NORMAL) X (RUSH) ☐ 24 ☐ 48 ☐ 72 ☐ 1 WEEK

Comments:

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: C. Lloyd Aderhold Time: 2:54	Signature: Time:	Signature: Time:
Printed Name: C. LLOYD ADERHOLD Date: 10/15/91	Printed Name: Date:	Printed Name: Date:
Company: CHEMONICS IND., INC	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: (LAB) 3.**
Signature: Time:	Signature: Time:	Signature: Marcia Smith Time: 0925
Printed Name: Date:	Printed Name: Date:	Printed Name: MARCIA SMITH Date: 10/15/91
Company:	Company:	Analytical Technologies, Inc. ATI

ATI Labs: San Diego (619)458-9141 • Phoenix (602)438-1530 • Seattle (206)228-8335 • Pensacola (904)474-1001

DISTRIBUTION: White, Canary - ANALYTICAL TECHNOLOGIES, INC. • Pink - ORIGINATOR

Analytico Technologies, Inc.
Phoenix, Arizona

Chain of Custody

DATE 10/14/91 PAGE 2 OF 4

PROJECT MANAGER: LLOYD ADERHOLD

COMPANY: CHEMONICS INDUSTRIES INC.
ADDRESS: 734 E. S.R. IDA
PHX, AZ 85034

BILL TO:
COMPANY: SAME
ADDRESS:

C. Lloyd Aderhold
SAMPLERS: (Signature)

(602) 962 5401
PHONE NUMBER

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Pesticides/PCB (608/8080)	NUMBER OF CONTAINERS
CI-10-2	10/14/91	2:35PM	SOIL	10	X	1
CI-10-3	10/14/91	2:45PM	SOIL	11	X	1
CI-11-1	10/14/91	3:15PM	SOIL	12	X	1
CI-11-2	10/14/91	3:25PM	SOIL	13	X	1
CI-11-3	10/14/91	3:35PM	SOIL	14	X	1
CI-11-4	10/14/91	3:55PM	SOIL	15	X	1
CI-12-1	10/14/91	3:55PM	SOIL	16	X	1
CI-12-2	10/14/91	4:03PM	SOIL	17	X	1
CI-12-3	10/14/91	4:10PM	SOIL	18	X	1

Petroleum Hydrocarbons (418.1)
(MOD 8015) Gas/Diesel
Diesel/Gasoline/BTXE (MOD 8015/8020)
BTXE (8020)
Chlorinated Hydrocarbons (601/8010)
Aromatic Hydrocarbons (602/8020)
MTBE
Herbicides (615/8150)
Base/Neutral/Acid Compounds GC/MS (625/8270)
Volatile Organics GC/MS (624/8240)
SDWA Primary Standards
SDWA Secondary Standards
SDWA Volatiles (502.1/503.1)
The 13 Priority Pollutant Metals
The 8 EP Tox Metals by EP Tox Prep. (1310)
The 8 EP Tox Metals by Total Digestion
The 8 EP Tox Metals by TCLP (1311)

PROJECT INFORMATION		
PROJECT NO: 10145		
PROJECT NAME: RAIL SPUR		
P.O. NO.		
SHIPPED VIA:		
SAMPLE DISPOSAL INSTRUCTIONS		
☐ ATI ☐ RETURN		

SAMPLE RECEIPT	
TOTAL NO. OF CONTAINERS	9
CHAIN OF CUSTODY SEALS	Y
INTACT?	Y
RECEIVED GOOD COND./COLD	Y
LAB NUMBER	110704

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

TAT: (NORMAL) X (RUSH) ☐ 24 ☐ 48 ☐ 72 ☐ 1 WEEK

Comments:

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: C. Lloyd Aderhold Time: 9:25AM 10/15/91	Signature: Time:	Signature: Time:
Printed Name: C. LLOYD ADERHOLD Date	Printed Name: Date	Printed Name: Date
Company: CHEMONICS IND. INC.	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: (LAB) 3.**
Signature: Time:	Signature: Time:	Signature: Marcia Smith Time: 0925
Printed Name: Date:	Printed Name: Date:	Printed Name: MARCIA SMITH Date: 10/15/91
Company:	Company:	Analytical Technologies, Inc. ATI

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Analytical**Technologies,**Inc.
Phoenix, Arizona

Chain of Custody

DATE 10/14/91 PAGE 3 OF 4

PROJECT MANAGER: LLOYD ADDERHOLD

COMPANY: CHEMONICS INDUSTRIES, INC.
ADDRESS: 734 E. S.P. DR.
PHX, AZ 85034

BILL TO:
COMPANY: SAME
ADDRESS:

C. Lloyd Adderhold — SAMPLERS: (Signature)
(602) 242-5401 — PHONE NUMBER

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Petroleum Hydrocarbons (418.1)	(MOD 8015) Gas/Diesel	Diesel/Gasoline/BTXE (MOD 8015/8020)	BTXE (8020)	Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	MTBE	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	SDWA Primary Standards	SDWA Secondary Standards	SDWA Volatiles (502.1/503.1)	The 13 Priority Pollutant Metals	The 8 EP Tox Metals by EP Tox Prep. (1310)	The 8 EP Tox Metals by Total Digestion	The 8 EP Tox Metals by TCLP (1311)	NUMBER OF CONTAINERS
CI-13-1	10/14/91	4:15 PM	SOIL	19								X											1
CI-13-2	10/14/91	4:25 PM	SOIL	20								X											1
CI-13-3	10/14/91	4:35 PM	SOIL	21								X											1
CI-14-1	10/14/91	4:40 PM	SOIL	22								X											1
CI-14-2	10/14/91	4:45 PM	SOIL	23								X											1
CI-14-3	10/14/91	4:55 PM	SOIL	24								X											1
CI-15-1	10/14/91	5:02 PM	SOIL	25								X											1
CI-15-2	10/14/91	5:25 PM	SOIL	26								X											1
CI-15-3	10/14/91	5:30 PM	SOIL	27								X											1

PROJECT INFORMATION	
PROJECT NO: 101491	
PROJECT NAME: RAIL SPUR	
P.O. NO.	
SHIPPED VIA:	
SAMPLE DISPOSAL INSTRUCTIONS	
☐ ATI ☐ RETURN	

SAMPLE RECEIPT	
TOTAL NO. OF CONTAINERS	9
CHAIN OF CUSTODY SEALS	Y
INTACT?	Y
RECEIVED GOOD COND./COLD	Y
LAB NUMBER	110704

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

TAT: (NORMAL) X (RUSH) ☐ 24 ☐ 48 ☐ 72 ☐ 1 WEEK

Comments:

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: C. Lloyd Adderhold Time: 9:20 AM 10/15/91	Signature: Time:	Signature: Time:
Printed Name: C. LLOYD ADDERHOLD Date	Printed Name: Date	Printed Name: Date
Company: CHEMONICS IND. INC.	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: (LAB) 3.**
Signature: Time:	Signature: Time:	Signature: Time: 0925
Printed Name: Date:	Printed Name: Date:	Printed Name: MARCIA SMITH Date: 10/15/91
Company:	Company:	Analytical Technologies, Inc. ATI

ATI Labs: San Diego (619)458-9141 • Phoenix (602)438-1530 • Seattle (206)228-8335 • Pensacola (904)474-1001 DISTRIBUTION: White, Canary - ANALYTICAL TECHNOLOGIES, INC. • Pink - ORIGINATOR

Analytical Technologies, Inc.
Phoenix, Arizona

Chain of Custody

DATE 10/14/91 PAGE 4 OF 4

PROJECT MANAGER: LLOYD ADERHOLD

COMPANY: CHEMONICS INDUSTRIES, INC.
ADDRESS: 734 E. S. P. INLET
PHX, AZ. 85034

BILL TO:
COMPANY: SAME
ADDRESS:

C. Lloyd Aderhold
SAMPLERS: (Signature)

(602) 262 5400
PHONE NUMBER

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Pesticides/PCB (608/8080)	Nitrate in water (EPA 353)	NUMBER OF CONTAINERS
CI-16-1	10/14/91	5:55 PM	SOIL	28	X		1
CI-16-2	10/14/91	6:10 PM	SOIL	29	X		1
CI-16-3	10/14/91	6:30 PM	SOIL	30	X		1
CI-16-4	10/14/91	6:35 PM	SOIL	31	X		1
CI-17-1	10/14/91	7:10 PM	SOIL	32	X		1
CI-18-1	10/14/91	7:15 PM	SOIL	33	X	X	1

PROJECT INFORMATION		SAMPLE RECEIPT	
PROJECT NO: 10149		TOTAL NO. OF CONTAINERS	6
PROJECT NAME: RAIL SPUR		CHAIN OF CUSTODY SEALS	Y
P.O. NO.		INTACT?	Y
SHIPPED VIA:		RECEIVED GOOD COND./COLD	Y
SAMPLE DISPOSAL INSTRUCTIONS		LAB NUMBER	110704
☐ ATI ☐ RETURN			

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

TAT: (NORMAL) X (RUSH) ☐ 24 ☐ 48 ☐ 72 ☐ 1 WEEK

Comments:

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: C. Lloyd Aderhold Time: 9:25 PM 10/15/91	Signature: Time:	Signature: Time:
Printed Name: C. LLOYD ADERHOLD Date:	Printed Name: Date:	Printed Name: Date:
Company: CHEMONICS IND, INC.	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: (LAB) 3.**
Signature: Time:	Signature: Time:	Signature: Marcia Smith Time: 0925
Printed Name: Date:	Printed Name: Date:	Printed Name: MARCIA SMITH Date: 10/15/91
Company:	Company:	Analytical Technologies, Inc. ATI

ATI Labs: San Diego (619)458-9141 • Phoenix (602)438-1530 • Seattle (206)228-8335 • Pensacola (904)474-1001 DISTRIBUTION: White, Canary - ANALYTICAL TECHNOLOGIES, INC. • Pink - ORIGINATOR

Analytical Technologies, Inc. 9830 S. 51st Street Suite B-113 Phoenix, AZ 85044 (602) 496-4400

ATI I.D. 111671

December 5, 1991

Chemonics Industries
734 E. Southern Pacific Drive
Phoenix, AZ 85034

Project Name/Number: Rail Spur 111491

Attention: Lloyd Aderhold

On 11/14/91, Analytical Technologies, Inc. received a request to analyze soil sample(s). The sample(s) were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

Because technical grade chlordane was found in client samples CI-17-3, CI-17B-1, and CI-17C-1, other isomers could not be reported individually.

If you have any questions or comments, please do not hesitate to contact us at (602) 496-4400.

Jane M. Foote
Project Manager

Robert V. Woods
Laboratory Manager

RVW:clf
Enclosure

Analytical Technologies, Inc.

CLIENT : CHEMONICS INDUSTRIES
PROJECT # : 111491
PROJECT NAME : RAIL SPUR

DATE RECEIVED : 11/14/91
REPORT DATE : 12/04/91

ATI I.D. : 111671

ATI #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	CI-17-2	SOIL	11/14/91
02	CI-17-3	SOIL	11/14/91
03	CI-17A-1	SOIL	11/14/91
04	CI-17A-2	SOIL	11/14/91
05	CI-17A-3	SOIL	11/14/91
06	CI-17B-1	SOIL	11/14/91
07	CI-17C-1	SOIL	11/14/91
08	CI-17C-2	SOIL	11/14/91
09	CI-17C-3	SOIL	11/14/91

----- TOTALS -----

MATRIX	# SAMPLES
SOIL	9

ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 11167101

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	DATE SAMPLED	: 11/14/91
PROJECT #	: 111491	DATE RECEIVED	: 11/14/91
PROJECT NAME	: RAIL SPUR	DATE EXTRACTED	: 11/18/91
CLIENT I.D.	: CI-17-2	DATE ANALYZED	: 11/24/91
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 5000

COMPOUNDS	RESULTS
ALDRIN	<25.0
ALPHA - BHC	<25.0
BETA - BHC	<25.0
GAMMA - BHC	<25.0
DELTA - BHC	<25.0
ALPHA-CHLORDANE	<250
GAMMA-CHLORDANE	<250
4,4'-DDD	60
4,4'-DDE	80
4,4'-DDT	610
DIELDRIN	<50
ENDOSULFAN I	<50
ENDOSULFAN II	<50
ENDOSULFAN SULFATE	<50
ENDRIN	<50
ENDRIN KETONE	<50
HEPTACHLOR	<25.0
HEPTACHLOR EPOXIDE	<25.0
METHOXYCHLOR	<250
TOXAPHENE	2300
AROCLOR 1016	<125.0
AROCLOR 1221	<125.0
AROCLOR 1232	<125.0
AROCLOR 1242	<125.0
AROCLOR 1248	<125.0
AROCLOR 1254	<125.0
AROCLOR 1260	<125.0

SURROGATE PERCENT RECOVERIES

DBC (%)	**

** Due to the necessary dilution of the sample, result was not attainable

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 11167102

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	DATE SAMPLED	: 11/14/91
PROJECT #	: 111491	DATE RECEIVED	: 11/14/91
PROJECT NAME	: RAIL SPUR	DATE EXTRACTED	: 11/18/91
CLIENT I.D.	: CI-17-3	DATE ANALYZED	: 11/21/91
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
ALDRIN	<0.005
ALPHA - BHC	<0.005
BETA - BHC	0.033
GAMMA - BHC	<0.005
DELTA - BHC	<0.005
ALPHA-CHLORDANE	NA
GAMMA-CHLORDANE	NA
4,4'-DDD	0.01
4,4'-DDE	0.06
4,4'-DDT	0.15
DIELDRIN	0.04
ENDOSULFAN I	<0.01
ENDOSULFAN II	<0.01
ENDOSULFAN SULFATE	<0.01
ENDRIN	<0.01
ENDRIN KETONE	<0.01
HEPTACHLOR	<0.005
HEPTACHLOR EPOXIDE	<0.005
METHOXYCHLOR	<0.05
TOXAPHENE	1.2
AROCLOR 1016	<0.025
AROCLOR 1221	<0.025
AROCLOR 1232	<0.025
AROCLOR 1242	<0.025
AROCLOR 1248	<0.025
AROCLOR 1254	<0.025
AROCLOR 1260	<0.025
TECHNICAL GRADE CHLORDANE	0.07
SURROGATE PERCENT RECOVERIES	
DBC (%)	96

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 11167103

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	DATE SAMPLED	: 11/14/91
PROJECT #	: 111491	DATE RECEIVED	: 11/14/91
PROJECT NAME	: RAIL SPUR	DATE EXTRACTED	: 11/18/91
CLIENT I.D.	: CI-17A-1	DATE ANALYZED	: 11/24/91
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 10

COMPOUNDS	RESULTS
ALDRIN	<0.050
ALPHA - BHC	<0.050
BETA - BHC	0.56
GAMMA - BHC	<0.050
DELTA - BHC	<0.050
ALPHA-CHLORDANE	<0.5
GAMMA-CHLORDANE	<0.5
4,4'-DDD	<0.1
4,4'-DDE	0.3
4,4'-DDT	0.1
DIELDRIN	<0.1
ENDOSULFAN I	<0.1
ENDOSULFAN II	<0.1
ENDOSULFAN SULFATE	<0.1
ENDRIN	<0.1
ENDRIN KETONE	<0.1
HEPTACHLOR	<0.050
HEPTACHLOR EPOXIDE	<0.050
METHOXYCHLOR	<0.5
TOXAPHENE	<1.0
AROCLOR 1016	<0.250
AROCLOR 1221	<0.250
AROCLOR 1232	<0.250
AROCLOR 1242	<0.250
AROCLOR 1248	<0.250
AROCLOR 1254	<0.250
AROCLOR 1260	<0.250
SURROGATE PERCENT RECOVERIES	
DBC (%)	103

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 11167104

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	DATE SAMPLED	: 11/14/91
PROJECT #	: 111491	DATE RECEIVED	: 11/14/91
PROJECT NAME	: RAIL SPUR	DATE EXTRACTED	: 11/18/91
CLIENT I.D.	: CI-17A-2	DATE ANALYZED	: 11/21/91
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
ALDRIN	<0.005
ALPHA - BHC	<0.005
BETA - BHC	<0.005
GAMMA - BHC	<0.005
DELTA - BHC	<0.005
ALPHA-CHLORDANE	<0.05
GAMMA-CHLORDANE	<0.05
4,4'-DDD	<0.01
4,4'-DDE	<0.01
4,4'-DDT	<0.01
DIELDRIN	<0.01
ENDOSULFAN I	<0.01
ENDOSULFAN II	<0.01
ENDOSULFAN SULFATE	<0.01
ENDRIN	<0.01
ENDRIN KETONE	<0.01
HEPTACHLOR	<0.005
HEPTACHLOR EPOXIDE	<0.005
METHOXYCHLOR	<0.05
TOXAPHENE	<0.1
AROCLOR 1016	<0.025
AROCLOR 1221	<0.025
AROCLOR 1232	<0.025
AROCLOR 1242	<0.025
AROCLOR 1248	<0.025
AROCLOR 1254	<0.025
AROCLOR 1260	<0.025

SURROGATE PERCENT RECOVERIES

DBC (%)	83

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 11167105

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	DATE SAMPLED	: 11/14/91
PROJECT #	: 111491	DATE RECEIVED	: 11/14/91
PROJECT NAME	: RAIL SPUR	DATE EXTRACTED	: 11/18/91
CLIENT I.D.	: CI-17A-3	DATE ANALYZED	: 11/21/91
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
ALDRIN	<0.005
ALPHA - BHC	<0.005
BETA - BHC	<0.005
GAMMA - BHC	<0.005
DELTA - BHC	<0.005
ALPHA-CHLORDANE	<0.05
GAMMA-CHLORDANE	<0.05
4,4'-DDD	<0.01
4,4'-DDE	<0.01
4,4'-DDT	0.01
DIELDRIN	<0.01
ENDOSULFAN I	<0.01
ENDOSULFAN II	<0.01
ENDOSULFAN SULFATE	<0.01
ENDRIN	<0.01
ENDRIN KETONE	<0.01
HEPTACHLOR	<0.005
HEPTACHLOR EPOXIDE	<0.005
METHOXYCHLOR	<0.05
TOXAPHENE	<0.1
AROCLOR 1016	<0.025
AROCLOR 1221	<0.025
AROCLOR 1232	<0.025
AROCLOR 1242	<0.025
AROCLOR 1248	<0.025
AROCLOR 1254	<0.025
AROCLOR 1260	<0.025

SURROGATE PERCENT RECOVERIES

DBC (%)	80

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 11167106

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	DATE SAMPLED	: 11/14/91
PROJECT #	: 111491	DATE RECEIVED	: 11/14/91
PROJECT NAME	: RAIL SPUR	DATE EXTRACTED	: 11/18/91
CLIENT I.D.	: CI-17B-1	DATE ANALYZED	: 11/24/91
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 50

COMPOUNDS	RESULTS
ALDRIN	<0.250
ALPHA - BHC	0.35
BETA - BHC	0.36
GAMMA - BHC	<0.250
DELTA - BHC	<0.250
ALPHA-CHLORDANE	NA
GAMMA-CHLORDANE	NA
4,4'-DDD	1.2
4,4'-DDE	1.5
4,4'-DDT	14
DIELDRIN	<0.5
ENDOSULFAN I	<0.5
ENDOSULFAN II	<0.5
ENDOSULFAN SULFATE	<0.5
ENDRIN	<0.5
ENDRIN KETONE	<0.5
HEPTACHLOR	<0.250
HEPTACHLOR EPOXIDE	<0.250
METHOXYCHLOR	<2.5
TOXAPHENE	<5.0
AROCLOR 1016	<1.250
AROCLOR 1221	<1.250
AROCLOR 1232	<1.250
AROCLOR 1242	<1.250
AROCLOR 1248	<1.250
AROCLOR 1254	<1.250
AROCLOR 1260	<1.250
TECHNICAL GRADE CHLORDANE	19.5
SURROGATE PERCENT RECOVERIES	
DBC (%)	**

** Due to the necessary dilution of the sample, result was not attainable

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 11167107

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	DATE SAMPLED	: 11/14/91
PROJECT #	: 111491	DATE RECEIVED	: 11/14/91
PROJECT NAME	: RAIL SPUR	DATE EXTRACTED	: 11/18/91
CLIENT I.D.	: CI-17C-1	DATE ANALYZED	: 11/21/91
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 20

COMPOUNDS	RESULTS
ALDRIN	<0.100
ALPHA - BHC	<0.100
BETA - BHC	0.2
GAMMA - BHC	<0.100
DELTA - BHC	<0.100
ALPHA-CHLORDANE	NA
GAMMA-CHLORDANE	NA
4,4'-DDD	<0.2
4,4'-DDE	<0.2
4,4'-DDT	<0.2
DIELDRIN	<0.2
ENDOSULFAN I	<0.2
ENDOSULFAN II	<0.2
ENDOSULFAN SULFATE	<0.2
ENDRIN	<0.2
ENDRIN KETONE	<0.2
HEPTACHLOR	<0.100
HEPTACHLOR EPOXIDE	<0.100
METHOXYCHLOR	<1.0
TOXAPHENE	<2.0
AROCLOR 1016	<0.500
AROCLOR 1221	<0.500
AROCLOR 1232	<0.500
AROCLOR 1242	<0.500
AROCLOR 1248	<0.500
AROCLOR 1254	<0.500
AROCLOR 1260	<0.500
TECHNICAL GRADE CHLORDANE	2.0
SURROGATE PERCENT RECOVERIES	
DBC (%)	**

** Due to the necessary dilution of the sample, result was not attainable

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 11167108

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	DATE SAMPLED	: 11/14/91
PROJECT #	: 111491	DATE RECEIVED	: 11/14/91
PROJECT NAME	: RAIL SPUR	DATE EXTRACTED	: 11/18/91
CLIENT I.D.	: CI-17C-2	DATE ANALYZED	: 11/21/91
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
ALDRIN	<0.005
ALPHA - BHC	<0.005
BETA - BHC	0.011
GAMMA - BHC	<0.005
DELTA - BHC	<0.005
ALPHA-CHLORDANE	<0.05
GAMMA-CHLORDANE	<0.05
4,4'-DDD	<0.01
4,4'-DDE	<0.01
4,4'-DDT	0.01
DIELDRIN	<0.01
ENDOSULFAN I	<0.01
ENDOSULFAN II	<0.01
ENDOSULFAN SULFATE	<0.01
ENDRIN	<0.01
ENDRIN KETONE	<0.01
HEPTACHLOR	<0.005
HEPTACHLOR EPOXIDE	<0.005
METHOXYCHLOR	<0.05
TOXAPHENE	<0.1
AROCLOR 1016	<0.025
AROCLOR 1221	<0.025
AROCLOR 1232	<0.025
AROCLOR 1242	<0.025
AROCLOR 1248	<0.025
AROCLOR 1254	<0.025
AROCLOR 1260	<0.025

SURROGATE PERCENT RECOVERIES

DBC (%)	83

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 11167109

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	DATE SAMPLED	: 11/14/91
PROJECT #	: 111491	DATE RECEIVED	: 11/14/91
PROJECT NAME	: RAIL SPUR	DATE EXTRACTED	: 11/18/91
CLIENT I.D.	: CI-17C-3	DATE ANALYZED	: 11/21/91
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
ALDRIN	<0.005
ALPHA - BHC	<0.005
BETA - BHC	<0.005
GAMMA - BHC	<0.005
DELTA - BHC	<0.005
ALPHA-CHLORDANE	<0.05
GAMMA-CHLORDANE	<0.05
4,4'-DDD	<0.01
4,4'-DDE	<0.01
4,4'-DDT	<0.01
DIELDRIN	<0.01
ENDOSULFAN I	<0.01
ENDOSULFAN II	<0.01
ENDOSULFAN SULFATE	<0.01
ENDRIN	<0.01
ENDRIN KETONE	<0.01
HEPTACHLOR	<0.005
HEPTACHLOR EPOXIDE	<0.005
METHOXYCHLOR	<0.05
TOXAPHENE	<0.1
AROCLOR 1016	<0.025
AROCLOR 1221	<0.025
AROCLOR 1232	<0.025
AROCLOR 1242	<0.025
AROCLOR 1248	<0.025
AROCLOR 1254	<0.025
AROCLOR 1260	<0.025

SURROGATE PERCENT RECOVERIES

DBC (%)	88

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

REAGENT BLANK

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT	: CHEMONICS INDUSTRIES	ATI I.D.	: 111671
PROJECT #	: 111491	DATE EXTRACTED	: 11/18/91
PROJECT NAME	: RAIL SPUR	DATE ANALYZED	: 11/20/91
CLIENT I.D.	: REAGENT BLANK	UNITS	: MG/KG
		DILUTION FACTOR	: N/A

COMPOUNDS	RESULTS
ALDRIN	<0.005
ALPHA - BHC	<0.005
BETA - BHC	<0.005
GAMMA - BHC	<0.005
DELTA - BHC	<0.005
ALPHA-CHLORDANE	<0.05
GAMMA-CHLORDANE	<0.05
4,4'-DDD	<0.01
4,4'-DDE	<0.01
4,4'-DDT	<0.01
DIELDRIN	<0.01
ENDOSULFAN I	<0.01
ENDOSULFAN II	<0.01
ENDOSULFAN SULFATE	<0.01
ENDRIN	<0.01
ENDRIN KETONE	<0.01
HEPTACHLOR	<0.005
HEPTACHLOR EPOXIDE	<0.005
METHOXYCHLOR	<0.05
TOXAPHENE	<0.1
AROCLOR 1016	<0.025
AROCLOR 1221	<0.025
AROCLOR 1232	<0.025
AROCLOR 1242	<0.025
AROCLOR 1248	<0.025
AROCLOR 1254	<0.025
AROCLOR 1260	<0.025

SURROGATE PERCENT RECOVERIES

DBC (%)	90

Analytical Technologies, Inc.

QUALITY CONTROL DATA

ATI I.D. : 111671

TEST : ORGANOCHLORINE PESTICIDES/PCB'S (EPA 8080)

CLIENT : CHEMONICS INDUSTRIES
PROJECT # : 111491
PROJECT NAME : RAIL SPUR
REF I.D. : 11167109

DATE ANALYZED : 11/21/91
SAMPLE MATRIX : SOIL
UNITS : MG/KG

COMPOUNDS	SAMPLE RESULT	CONC. SPIKED	SPIKED SAMPLE	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
GAMMA BHC	<0.005	0.067	0.059	88	0.058	86	2
HEPTACHLOR	<0.005	0.067	0.058	86	0.059	88	2
ALDRIN	<0.005	0.067	0.060	90	0.062	92	3
DIELDRIN	<0.01	0.07	0.06	86	0.05	71	18
ENDRIN	<0.01	0.07	0.06	86	0.06	86	0
DDT	<0.01	0.07	0.06	86	0.06	86	0

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Spiked Sample Result} - \text{Duplicate Spike Sample Result})}{\text{Average of Spiked Sample}} \times 100$$

Analytical**Technologies,**Inc.
Phoenix, Arizona

Chain of Custody

DATE 11/14/91 PAGE 1 OF 1

PROJECT MANAGER: LLOYD ADERHOLD

COMPANY: CHEMONICS INDUSTRIES, INC.
ADDRESS: 734 E SOUTHERN PACIFIC DR.
PHOENIX, AZ 85034

BILL TO:
COMPANY: SAME
ADDRESS:

Lloyd Aderhold
SAMPLERS: (Signature)

(602) 276-5401
PHONE NUMBER

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Pesticides/PCB (608/8080)	NUMBER OF CONTAINERS
CI-17-2	11/14/91	2:15PM	SOIL	1	X	1
CI-17-3	11/14/91	2:25PM	SOIL	2	X	1
CI-17A-1	11/14/91	2:30PM	SOIL	3	X	1
CI-17A-2	11/14/91	2:45PM	SOIL	4	X	1
CI-17A-3	11/14/91	2:55PM	SOIL	5	X	1
CI-17B-1	11/14/91	3:00PM	SOIL	6	X	1
CI-17C-1	11/14/91	3:10PM	SOIL	7	X	1
CI-17C-2	11/14/91	3:20PM	SOIL	8	X	1
CI-17C-3	11/14/91	3:30PM	SOIL	9	X	1

PROJECT INFORMATION	SAMPLE RECEIPT	
PROJECT NO: 11491	TOTAL NO. OF CONTAINERS	9
PROJECT NAME: RAIL SPUR	CHAIN OF CUSTODY SEALS	Y
P.O. NO. 1881	INTACT?	Y
SHIPPED VIA:	RECEIVED GOOD COND./COLD	Y
SAMPLE DISPOSAL INSTRUCTIONS	LAB NUMBER	11671
☒ ATI ☐ RETURN		

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

TAT: (NORMAL) X (RUSH) ☐ 24 ☐ 48 ☐ 72 ☐ 1 WEEK

Comments:

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Lloyd Aderhold 420	Signature:	Signature:
Printed Name: C. LLOYD ADERHOLD	Printed Name:	Printed Name:
Date:	Date:	Date:
Company: CHEMONICS IND., INC.	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: (LAB) 3.**
Signature:	Signature:	Signature: 420
Time:	Time:	Time:
Printed Name:	Printed Name:	Printed Name: MARGUERITE O'Brien
Date:	Date:	Date: 11/14/91
Company:	Company:	Analytical Technologies, Inc.

ATI Labs: San Diego (619) 458-9141 • Phoenix (602) 496-4400 • Seattle (206) 228-8335 • Pensacola (904) 474-1001

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